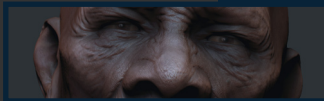




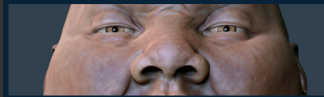
Tutorial eBook  
**ZBrush** Character Creation



## CHAPTER 01

Old / Gaunt

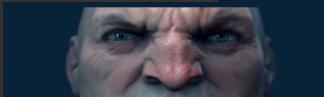
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## CHAPTER 02

Obese

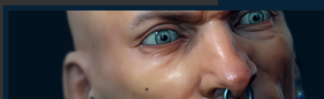
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## CHAPTER 03

Steroid-Pumped Guy

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## CHAPTER 04

Extreme Piercings & Tattoos

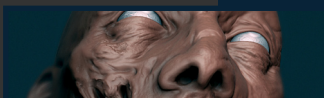
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## CHAPTER 05

Beaten-Up

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## CHAPTER 06

Zombie

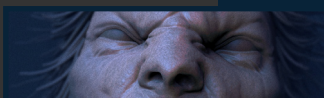
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## CHAPTER 07

Vampire

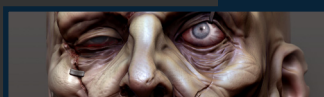
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## CHAPTER 08

Werewolf

Page 077



## CHAPTER 09

Frankenstein

Page 085



The base mesh used for these characters can be found within the 'ZBrush Character Creation eBook' download folder







Chapter 1 **Old & Gaunt**

# Old/Gaunt

Created In: ZBrush 3

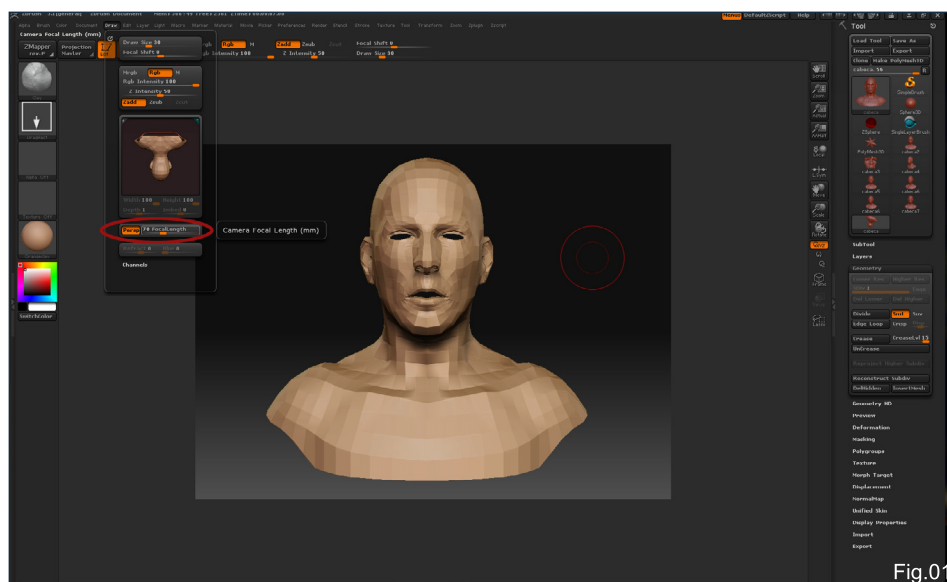
## CONCEPT

Whenever I begin a model, I first of all try to define what kind of model I'm going to develop. If I'm going for a more creative type of piece then I will start off with some sketches and drawings to find the right look before I start, because on paper you can create endless tests – all very quickly! After the sketching stage I will then look for references to fine-tune my vision of the work I wish to create and, because of this referencing, I will achieve a much more natural look in the end.

In the case of this sculpt, I simply searched for some photo references, because I already had an idea of what I was going to create for the topic of this tutorial, "Old/Gaunt", and so I didn't need to do any sketches before I got to work (Ref.01a – b).

## SCULPTING

The first thing I always do when in ZBrush is adjust the perspective so that it suits my model, because the perspective distortion depends on



the size of the tool used on the canvas (Fig.01).

To adjust the perspective view is very simple: you go to Draw > Perspective Distortion. If you need change the values to fix the distortion, if you increase the value you will have less distortion, and more distortion with lower values. If the value is set to 100 the camera will be in an orthographic projection.

I then select the Smooth sculpting brush and adjust the intensity of it, usually setting it to something around 20. I'm configuring the Smooth brush here just to save time; I'm not using it right now but I will be very soon! Basically, to use the Smooth brush I simply



press the Shift button (shortcut for the Smooth brush) and my brush will automatically change to Smooth. This is why I like to do this early on as it has a definite impact on the speed of creation later on. I generally like to work with a lower value in the Smooth brush because this way it gives me more control.

At this point I turn on the Symmetry to save time, because everything I do on one side of the model when this is turned on will also be done symmetrically on the other side, too. You can turn this on by going to Transform > Activate Symmetry (or press the X key on your keyboard). I generally like to work with this only at the beginning of the model, and later on I will turn this off to achieve more realism in my sculpt.

After importing the base mesh (**Fig.02**), I don't subdivide the base mesh at first so as not to lose the initial focus, which is simply to adjust the shape of the character at this stage. I look for a good silhouette at subdivision level 0 (this will change during the process, but by working on this level here I can get much closer to the concept that I have in mind). I like to keep my model at a low subdivision level here only to keep my focus on the shape and not on the details, but this is my personal preference.

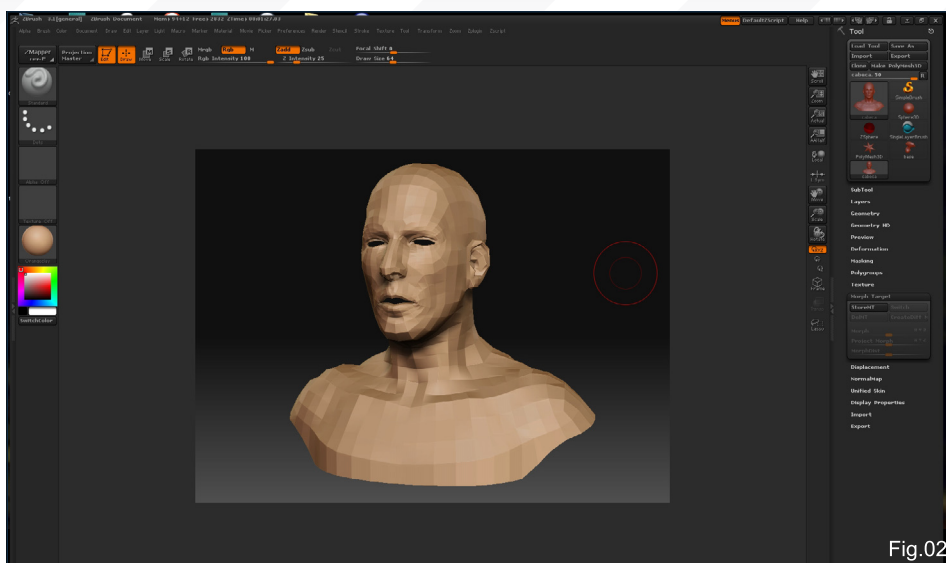


Fig.02



Fig.03

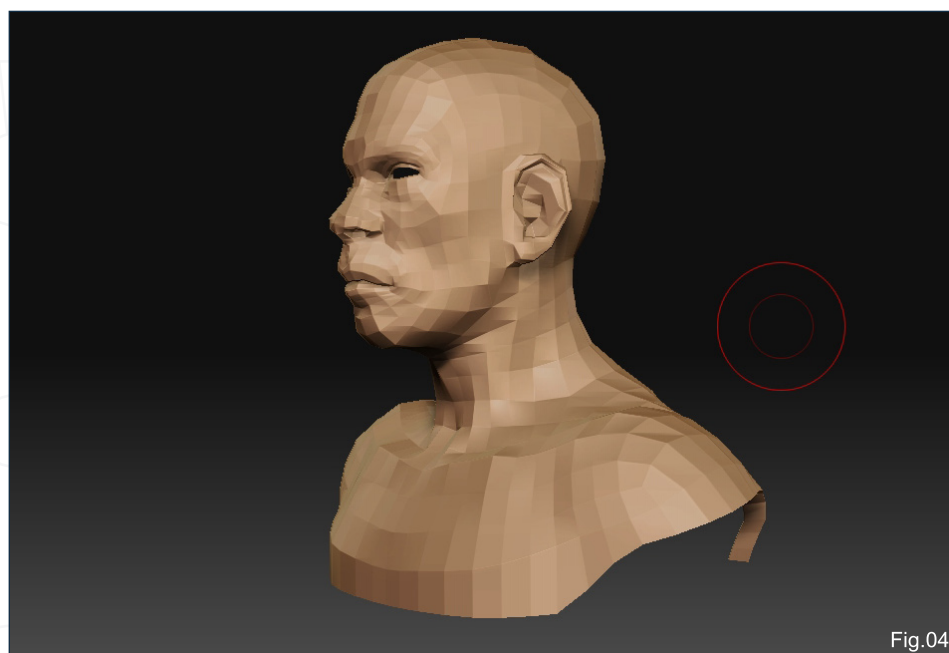
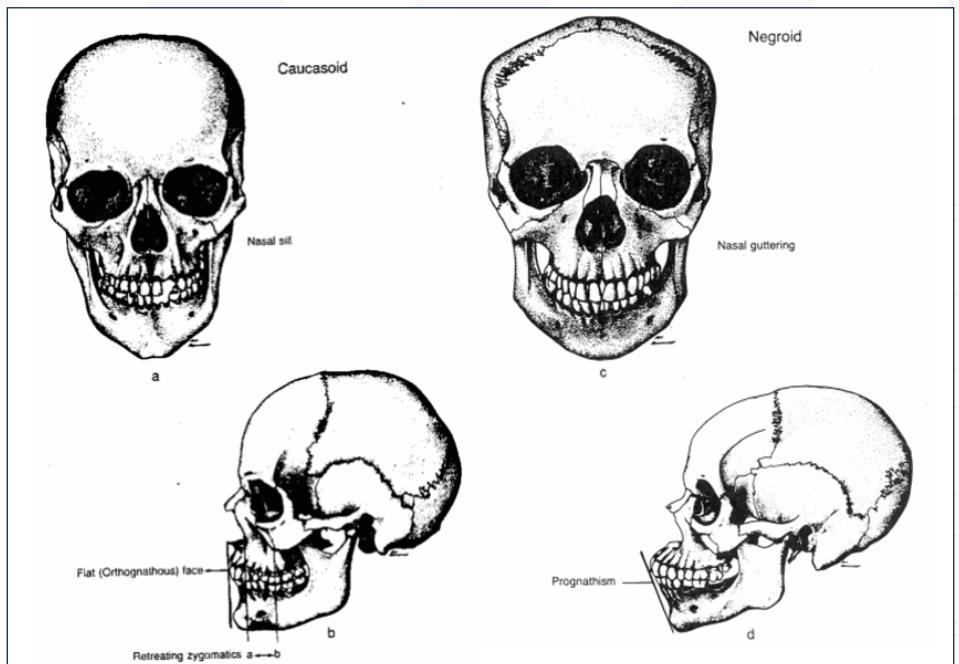


Fig.04

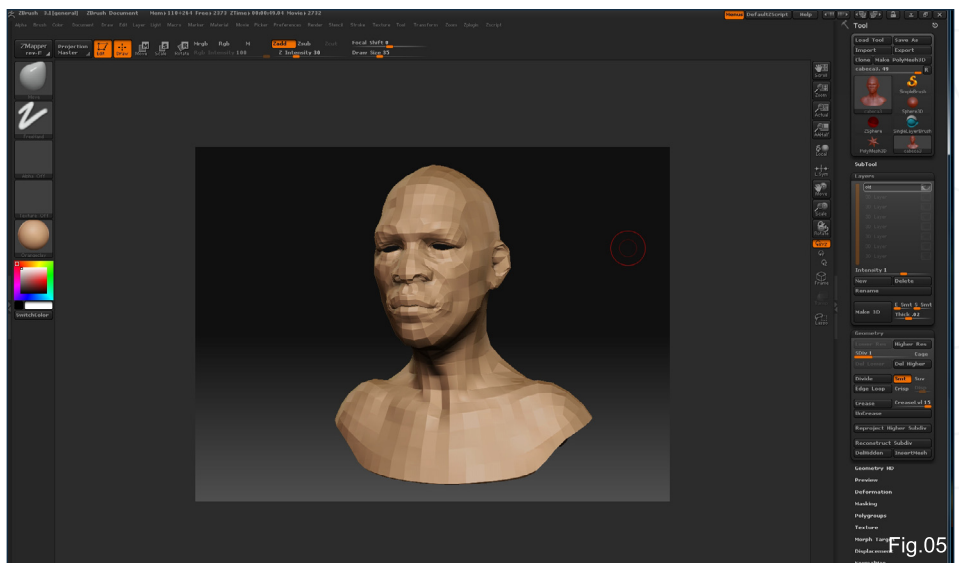
Some ZBrush artists will choose to model at a higher level of subdivision if it works better for them that way, but I prefer this method because it is similar to when working with traditional sculpting material. In a traditional sculpture the shape is built up from a very low quality at first just to visualise the forms, and then later on you add more and more clay to build up the details and then smooth it out to refine it as the last stage.

Here I start to block the shape of the character with the Move brush (**Fig.03 – 04**); this brush moves points under the brush in the XY plane of the screen and I'm using it here at its default configuration, simply changing the radius to modify small or large areas. I start to work

on the shape as if using real clay; first of all I try to establish a good bone structure for the character. In this case I opted to create an African man, so the head bone structure is very different from a Caucasian one. Basically, an African skull has bigger cheek bones and the top of the skull is not flat like a Caucasian one, while the bottom of the skull has prognathism, meaning that the jaw protrudes outwards. To make sure I got this right, I searched for some references in order to better understand the differences between skulls when working on this initial stage of the sculpt. I found this image particularly helpful at this early stage of the work (Ref.02).



Another very important thing to keep an eye on, besides the shape, is the “strength” of your character, and the “visual weight” of it in your scene. At this stage, all the proportions of your character will tell you what kind of strength your character has (Fig.05 – 06). The visual weight of a character is defined by its structure, for example if your character is a muscular man then he will probably have a small head and a bigger jaw – what his character *is* changes the “weight” in the scene. In this case, my character is gaunt and very old, and has probably suffered increased hunger throughout his life, and so his bones will appear larger and his muscles will



be more shrivelled. His face and his posture generally won't possess confidence, and his head will be very heavy for such a frail body support. Considering all these elements of your character will help you to define the weight of your model and increase the realism of your work.

After finding the best overall shape for the character, I can subdivide the mesh once and start to refine the shape further (Fig.07 – 08). I only ever subdivide my mesh when I need more polygons to continue my modelling work with. If I don't need them, I don't subdivide! At this stage I am still working on the shape, so I don't need a



lot of polygons in my mesh, and with a low poly mesh it is very easy to manipulate polygons.

**Note:** to subdivide the mesh go to Tool > Geometry Divide, and there you can choose to divide however many times you need/want to (more details = more divisions; less details and shape modifications = lower divisions).

So I can start to work on the blocking in of the facial muscles and fat now. Until this point, the Move brush has been the tool I have used the most to establish the basic shape of my character, but now that I'm starting to block some facial areas in, like the muscles and some volume around the mouth, using the Standard brush with a very low intensity is the best tool that I find to use for this level of detail at this stage (Fig.09). The size of the brush is very relative. I change the brush's radius according to the size of the area that I'm working on; if I'm working on big forms and shapes then I use a larger radius, and when I'm working on smaller areas and finer details I'll use a decreased radius. The Standard brush is the original basic ZBrush sculpting brush; it displaces the vertices outwards over the areas it passes and is a great tool for this purpose!

**Note:** to hide some parts of my model (Fig.09) I simply press Ctrl + Shift and click and drag on my model. The part that I click and drag will remain visible whilst the rest will be hidden. This is great way to concentrate your focus on specifics areas! As well as being great for keeping your concentration on your work, it also keeps your machine running more quickly



Fig.07



Fig.08

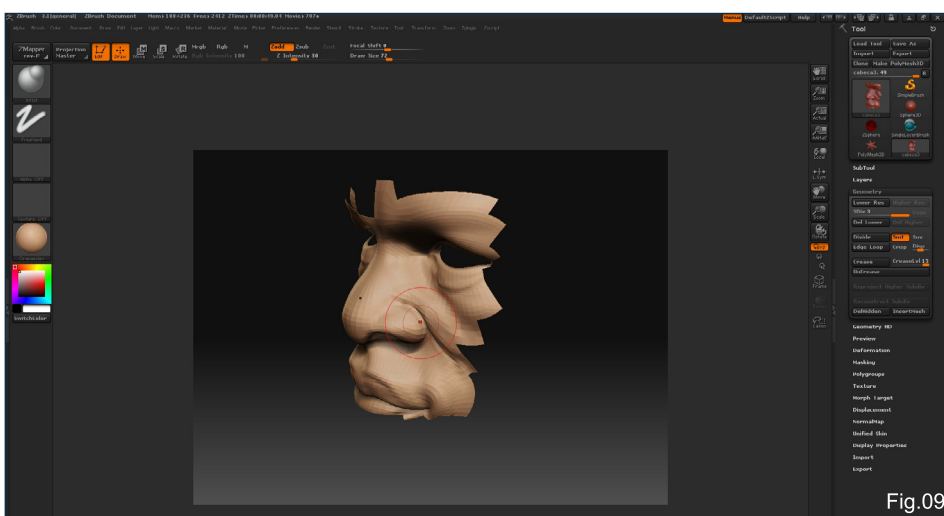


Fig.09

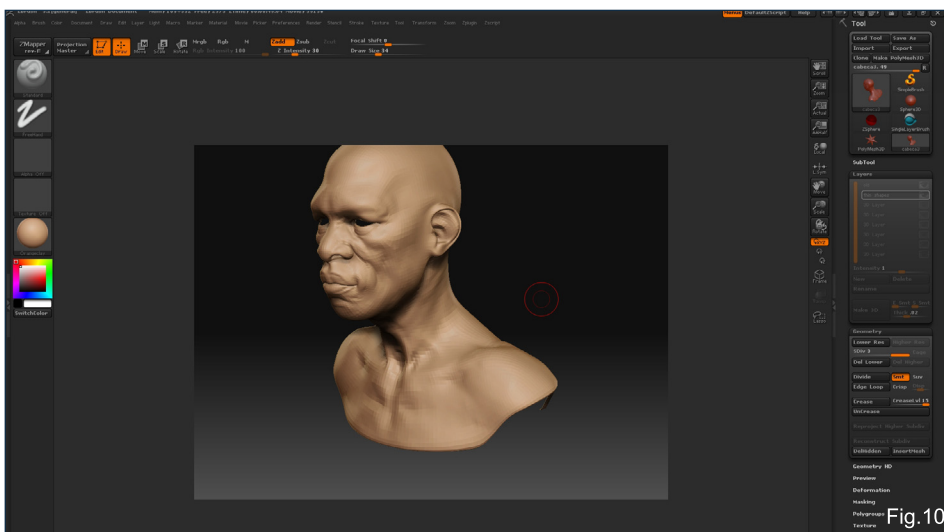
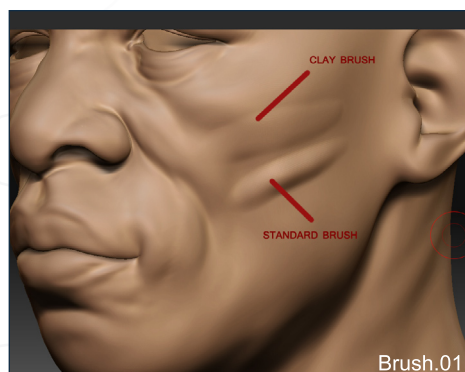
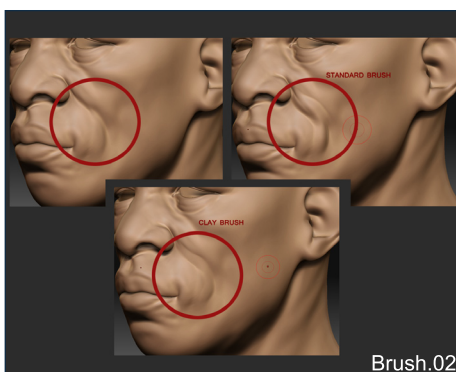


Fig.10



Brush.01



Brush.02

(although this doesn't so much have an effect at this level of subdivision because of there being so few polygons, but later on when I have towards 6 million polygons then this will be a really great way of keeping things running nicely whilst focusing on details).

Here I increase the level of subdivision again, so now I have a greater poly count to work with (Fig.10). I prefer to work with the Clay

and Flatten brushes here (**Brush01 - 02**). The Clay brush is very good to make smoother displacements, and it works very well with alphas too.

**Note:** An alpha is a greyscale intensity map which can be used to represent intensity, masking, etc. For example, bump maps and displacement maps are alphas; the grey intensity represents the height/depth of the bump or displacement. In ZBrush, alphas are used for more than bump or displacement maps as they can affect masking (the parts of a model or painting you're working with), brush appearance, how colours or materials are laid down, the shape of the model, and so on. In addition, you can make your own alphas, and also turn alphas into other tools, such as 'stencils'. Any brush can use alphas, but I like to work with Clay or Standard brushes in general.

When you have some areas with cavities in them, for example, then if you use the Standard brush it will create a displacement on top of the cavities. Now, if you use the Clay brush on top of this then it will fill these cavities with mass. The Flatten brush allows you to easily flatten parts of your model into planar surfaces. In addition, you can raise or lower the surface as you flatten it. Using the Flatten brush you can roughly flatten your model in areas, such as enhancing the plane of your model's cheekbones. When I work with the Flatten

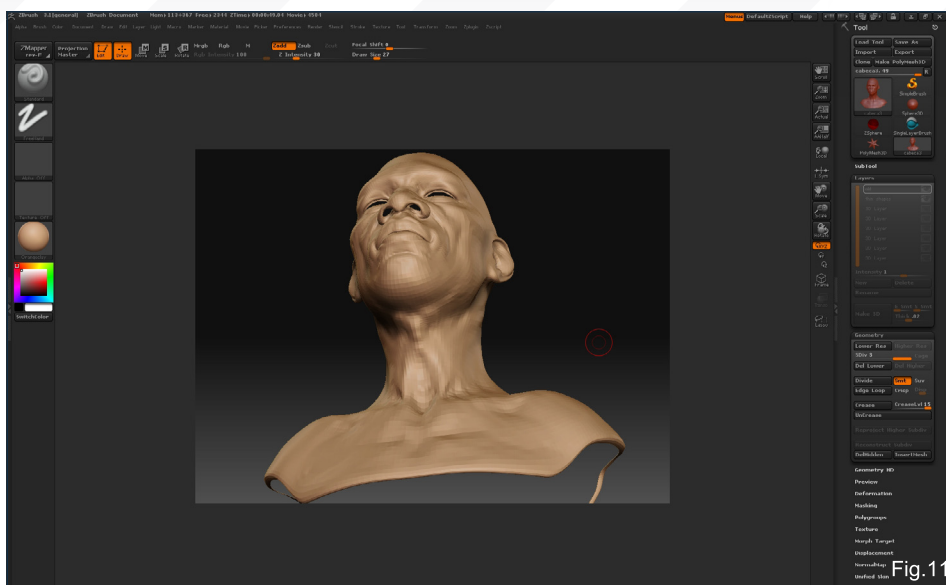


Fig.11

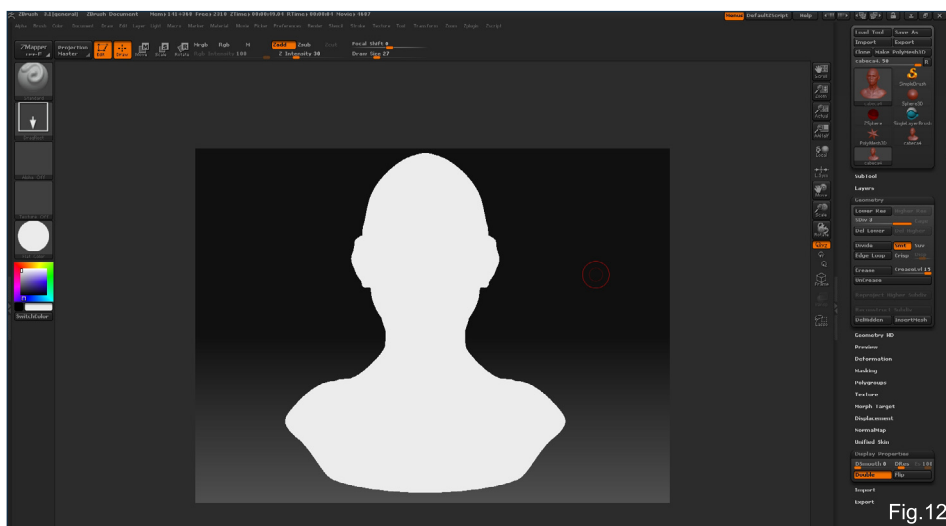


Fig.12

brush I change the brush modifier to something around about 10, and I can then start to add more volume in a more natural and intuitive way as the work progresses.

At this stage I start to block in some areas with more definition and make some tests to find the shape that pleases me the most. The Clay brush is a wonderful tool to use for this because it adds volume to the mesh in a way that makes the final result look much more natural, so it's ideal for body imperfections and the like. I always use it to block some areas in, such as the chest muscles and bones, areas of the back, and even some of the major wrinkles. I always use the default values of this brush. I could also use the Standard brush, but I prefer the Clay brush for this kind of task because it has a smoother displacement.

Because the character is so skinny, being old and gaunt, he has to have very apparent bones, and so I must take plenty of care in order to

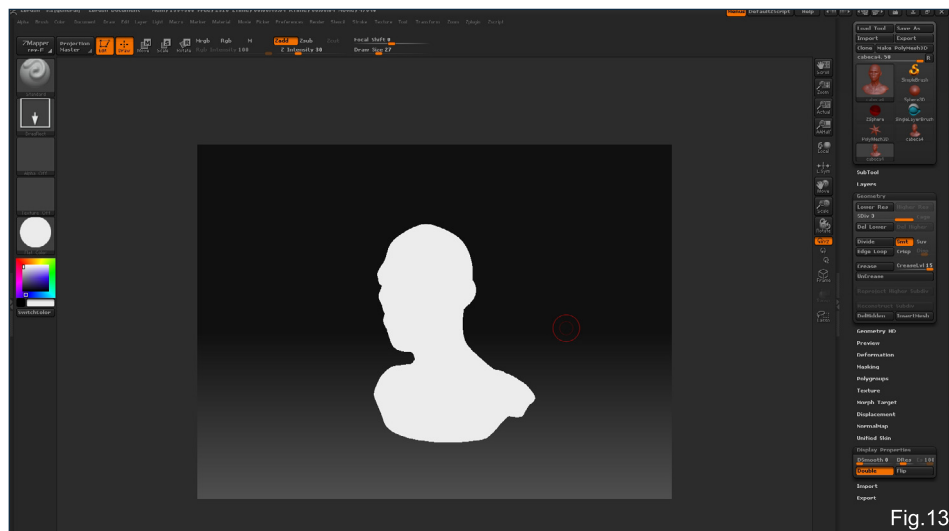


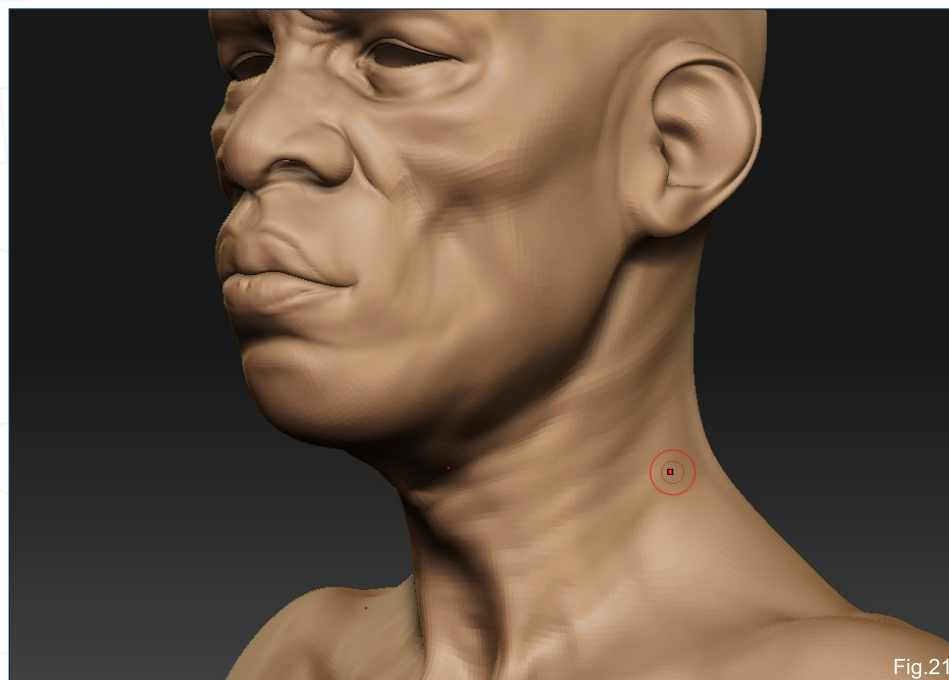
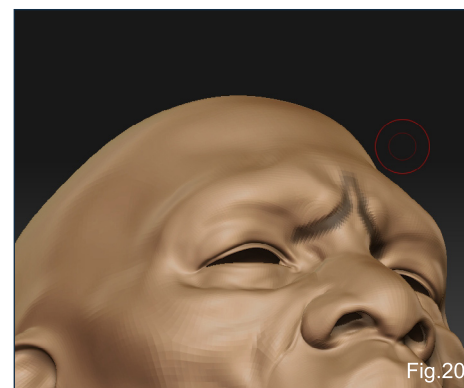
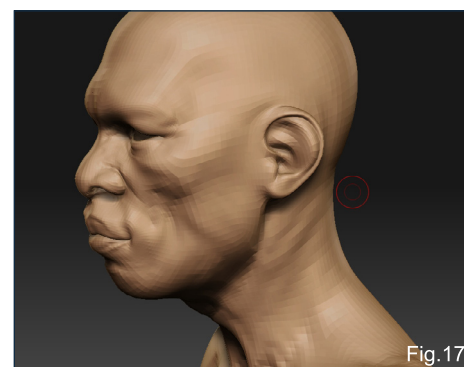
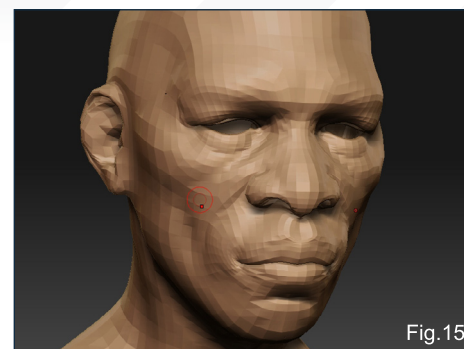
Fig.13



find a good balance between the bones and muscles in his face. Even a very skinny person has muscles, and these muscles are of course placed over the bones (**Fig.11**).

Another very useful tip is to change the Material to Flat Colour, so that you can achieve a better view of the silhouette to see how it's coming along and whether it fits in with your concept (**Fig.12 – 13**).

Here I am using the Clay brush again to work on the muscles and bones (**Fig.14 – 22**). In **Fig.15** you can see that I step down a subdivision level in order to make some fixes that I feel necessary to the basic shape of the face and its muscle structure. At this stage, it is essential to use a brush such as the Clay brush in order to achieve a more natural result overall.

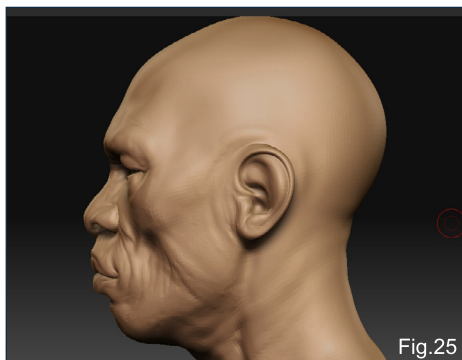


Here I'm refining the shape of the lips using the Standard brush (**Fig.23**).

And here I'm using the Elastic brush (**Fig.24**), which basically works similarly to the Standard brush, but for some types of models it is much more accurate at maintaining the original shape of the surface as the surface of the model is displaced.

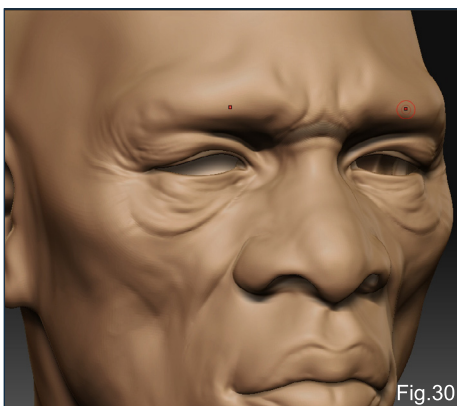
Here I go back to using the Clay brush again (Fig.25), stepping down a subdivision level in Fig.26 to focus on the mouth area without being distracted by the rest of the head, neck and chest.

Here I'm simply working on some cavities with the Elastic brush again, but the Standard tool would be equally as good for this type of detail (Fig.27 – 28).



After finding the best overall shape for the character, I can start to move on and create some of the more character defining details (Fig.29). At this stage, it's important to start with the detailing of the largest wrinkles and cavities, working my way through to the smaller details as I progress with the sculpting.

Creating wrinkles in a head sculpt is very simple: referring to one of my reference images I try to achieve the same effects by simply drawing many lines in my model. Later, I use the brush with the Alt button pressed – which basically inverts the tool (this applies to any brush), enabling me to make the cavities related to wrinkles. I like to use the Standard brush with Alpha 38 turned on (Fig.30 – 31). This tool, with this alpha, will create a very good wrinkle effect, and it is also very good for working on the finer details.





the bones. Once again for this type of work I use the Clay brush to achieve a more natural look. I always use the same brush settings – there's no need to change the settings, the only thing I do change is the alphas and that's only occasionally!

With a new subdivision level here, I start to define some of the thinner and smaller wrinkles, always paying attention to their positions and directions on the face and neck. At this stage it is important to concentrate on very specific points, so it's very useful to hide some parts of the model to keep your attention on the areas you're working on and focus on the kind of detail you need to achieve in your sculpt (Fig.32 – 39).

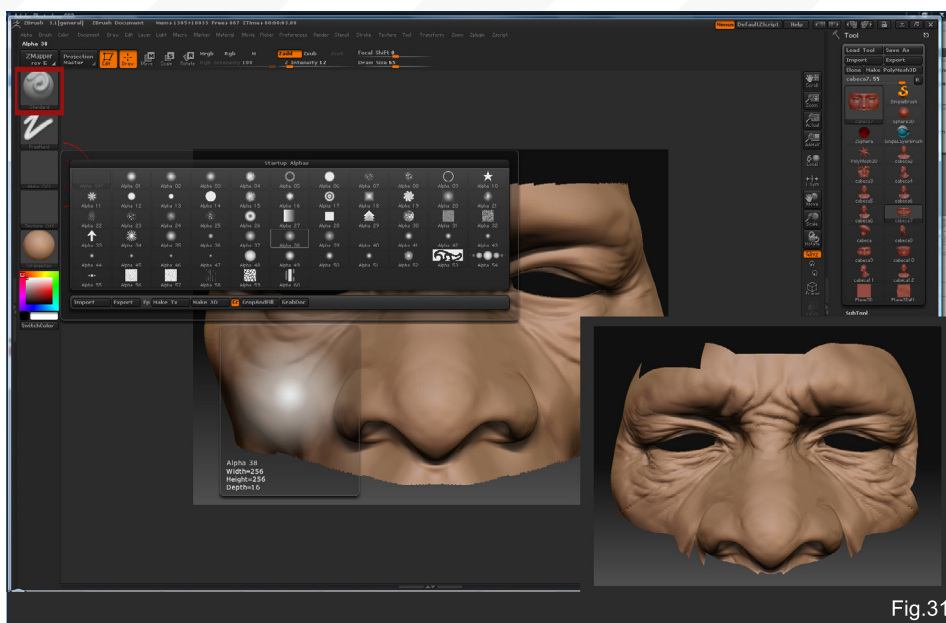


Fig.31



Fig.32



Fig.33



Fig.34

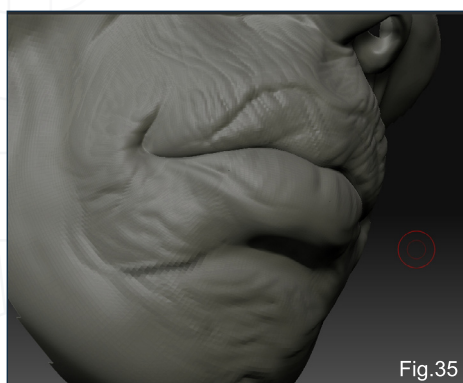


Fig.35

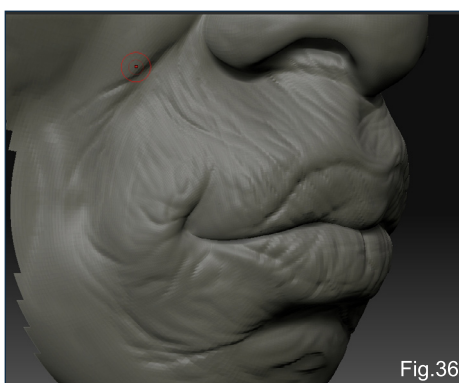


Fig.36

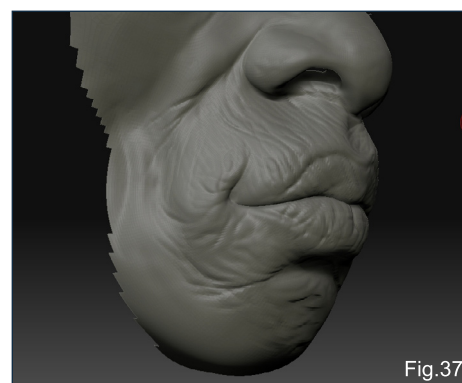


Fig.37

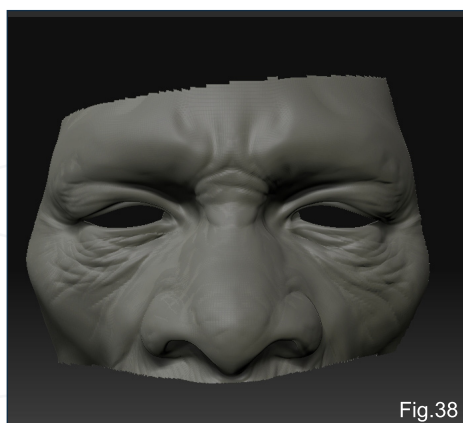


Fig.38

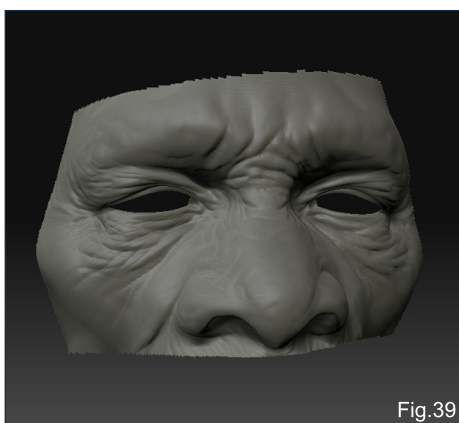


Fig.39

Here I'm working on the muscle construction and beginning to get into the more detailed wrinkling of the skin, using the Standard and Clay brushes at the usual settings (Fig.40 – 43).

A very good option, although not very popular, is the Brush's gravity strength (Fig.44). This is a very useful option to achieve the desired weight on wrinkles, and I usually set this strength to around 20 or 30.

At this point I can start to refine the details, here using the Standard brush with the Alpha 38 and the Inflat brush with a low intensity of around 8 (Fig.45). It's always good to turn the symmetry on and off to achieve a more natural result when sculpting. With the Standard brush I start to create the wrinkles (Fig.46) and with the Inflat brush I can give a more natural look by shortening the distance among some of the wrinkles. I use the same treatment all over the face, always paying attention to the flow of the wrinkles (Fig.47).

It's also often useful to use the Lazy Mouse function with a low radius, but it's important that you work on each wrinkle individually, in order to achieve a very natural result. The Lazy Mouse gives the artist more control over their brush strokes, allowing you to work with a greater degree of refinement than just by hand alone.

**Note:** 'LazyRadius' sets the length of the 'string' connecting the cursor to the drawing point; the longer the 'string', the more precise the stroke, but the further you'll have to move your hand to make it!

In this case a low radius is good as it provides more control without the limitations of a higher radius.



Fig.40



Fig.41



Fig.42



Fig.43

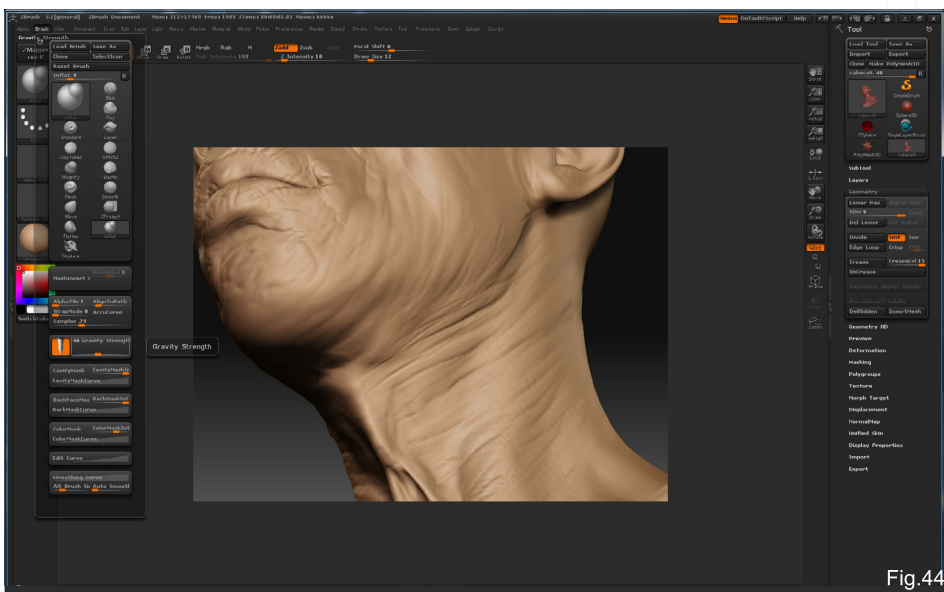


Fig.44



Fig.45



Fig.46

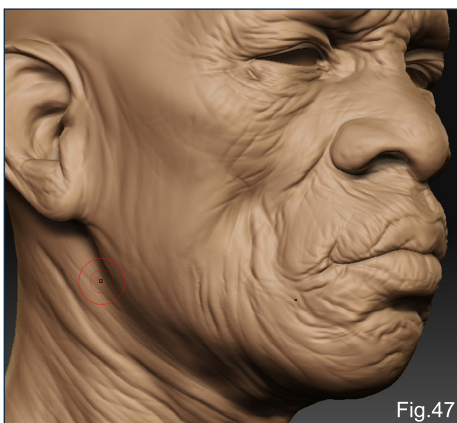


Fig.47



Fig.48



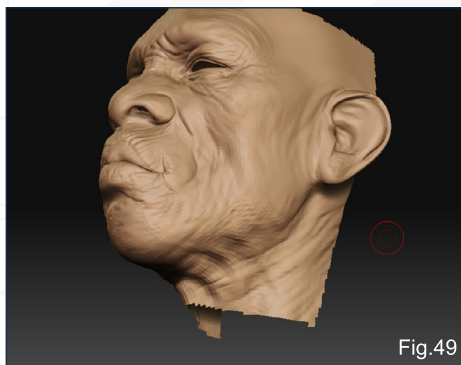


Fig.49

I go with this process all over the model (Fig.48) using the Standard brush, but for bigger wrinkles, like the ones on the neck, I step down 2 subdivision levels to get a better control over the general form (Fig.49), and then I step up the subdivision level again to work on the wrinkles' cavities (Fig.50).

After finishing all the wrinkles I go in with the Inflat Brush (with a very low intensity and a very high radius value) all over the wrinkles to shorten the distance among the wrinkles' borders, to give them more weight. The Inflat brush expands the geometry by pushing vertices along their own normals. I therefore find it very useful to use this brush on the wrinkles as it gives them a more realistic form. Fig.51 shows the before and after effects of using the Inflat brush on wrinkles.

With the wrinkles all done, it's time now to use some alphas in order to add some more details,



Fig.50

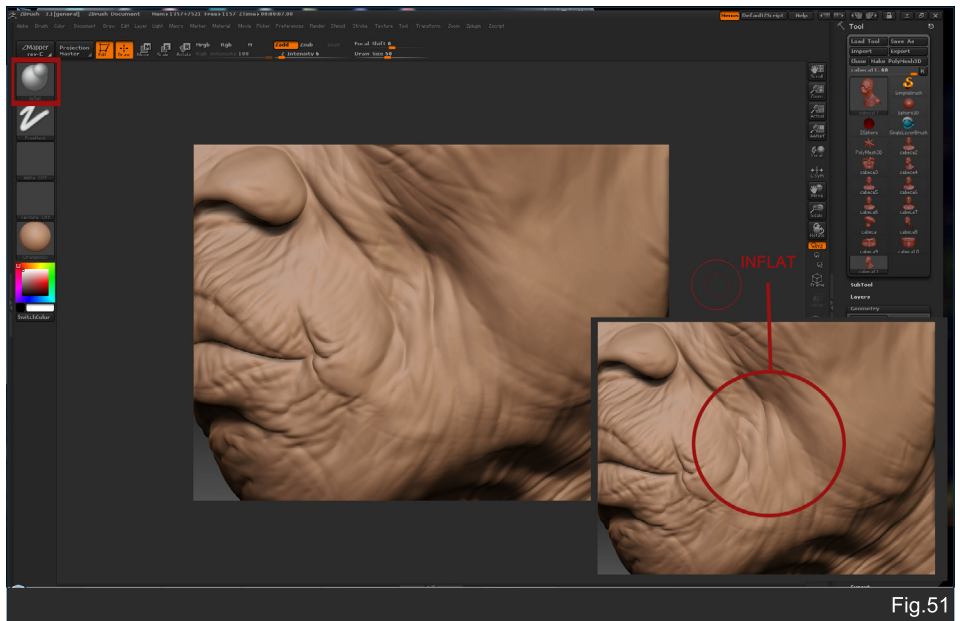


Fig.51

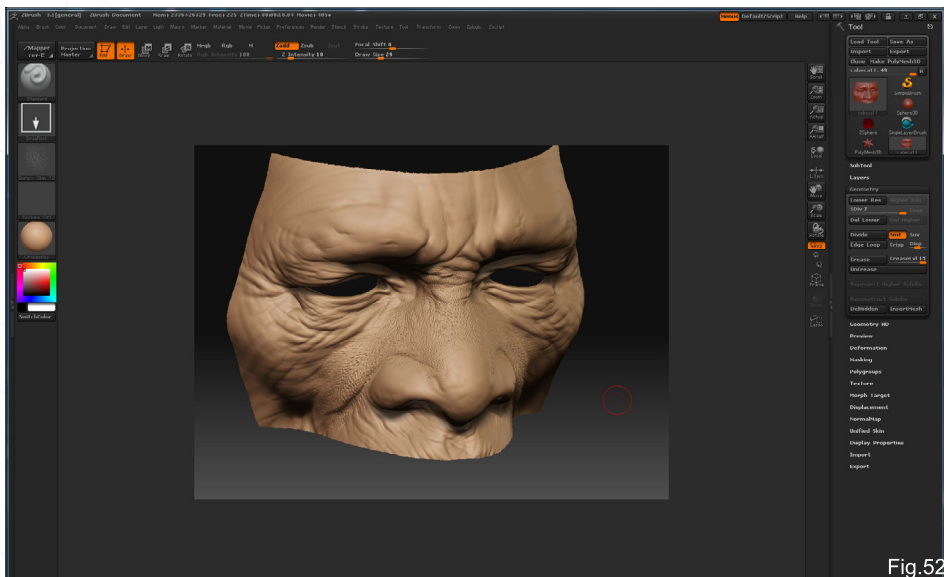


Fig.52

like the pores and small imperfections found in old, dry skin (Fig.52). I start the process by using the Standard brush and changing the stroke type to DragRect. For this particular work I found one of the Aaron Simms alphas (included in a Gnomon Workshop DVD) really useful. But basically, alphas can be made from photos in Photoshop and used for certain parts, like the pores for example.

**Note:** To import an alpha into ZBrush, first of all in Photoshop you simply desaturate your photograph, or a part of the photo, and correct the Levels. You can then save the file and open it in the Alpha palette.

The best tip here is to be very calm and patient when placing the alphas according to each part of the face, because each part has its own pore direction (**Fig.53 – 54**), so use references to ensure that you're achieving a natural look.

The ideal method is to work on a new layer here, as this way you can adjust the intensity or simply remove any areas you don't like. To create a layer it is very simple: in the Tool palette go to Layer > Create layer. Layers are a very good option if you want to make some modifications that may affect the whole model. In the case of this work, if I put some Alpha in the wrong place and try to smooth it, I would then lose some of the wrinkles as well. So I create another layer here to change the symmetry (**Fig.55 – 56**), because there's rarely someone with a totally symmetrical face, and a symmetrical face can cause a kind of synthetic feeling.

You can see now that I have eyes in the model's head (**Fig.57**). Well, for the eyes, these were created in another 3D package and imported into ZBrush as a Subtool. Subtools are very easy to add to your model in your scene; first of all you have to import the eye into the Tool palette, and then if you go into the Tool palette and select the face in the Subtool palette, and



Fig.53



Fig.54



Fig.55



Fig.56

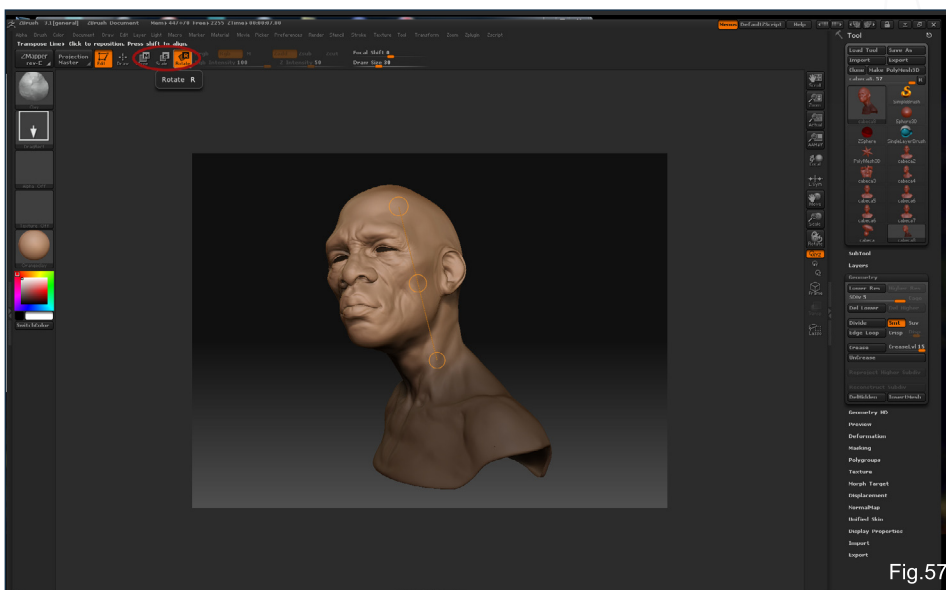


Fig.57

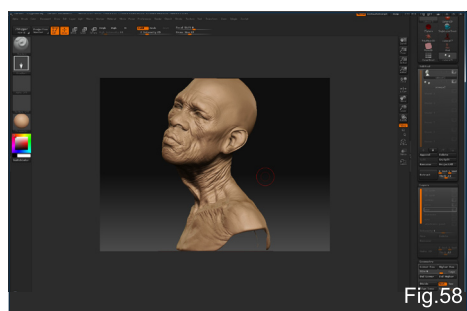


Fig.58

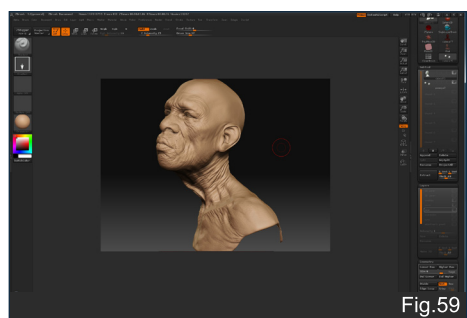


Fig.59

then click Append and select your eye, the eye Subtool should appear in the scene with your head (Append only finds the tools that have already been imported!).

Here I create a new Layer and with the Transpose tool I pose the character to make it look more alive (**Fig.67**). In this particular case I use the Transpose Master plug-in so that I don't need to move the eyes which I have already added to the head sculpt, because the eyes

are separate Subtools. The Transpose Master can be found in the ZBrush central forum. This plug-in merges all Subtools and allows you to manipulate all Subtools together – without it you will need to move all the Subtools separately!

On another new layer, I make some adjustments so that the pose looks more natural. I add some new wrinkles now because, when I rotated the character's head (**Fig.58 – 59**) it forced the skin to have some kind of deformation in some





Model.01

places that weren't previously modelled, so I have to fix this here before I can move onto the texturing stage (**Model.01**).

## TEXTURING

Now, with the modelling process finished, it's time to start the texturing process! There are many options in which to create a colour texture in ZBrush, but for this character I decided to go for a technique which is based on the projection of images over the model. To do this, I work with the Projection Master, and so I turn off ZBrush's perspective to avoid any texture distortions on the model. The Projection Master is a solution used to paint details, colours or materials onto the model, using any or all of ZBrush's 2.5D painting tools and other 3D objects. It will project anything you paint directly onto the mesh below. Because of this, it is important to position your

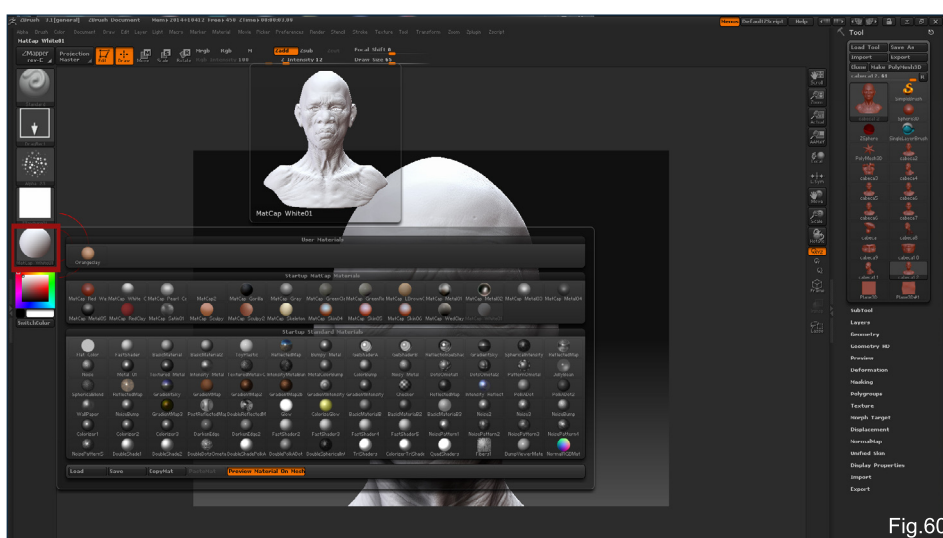


Fig.60

model so that the area you're working on is facing the camera as directly as possible!

First of all, it's very important to change the material of your model to a white one so as to

make sure you're painting the correct colour as you go (**Fig.60 – 61**). At this stage, I also create a new texture (4096 x 4096 pixels) for the next stage (**Fig.62**). This texture was created and added to the texture palette, and with Projection



Fig.61

Master I can then simply project some parts of my skin textures onto my model.

By pressing the "G" shortcut I go to the Projection Master mode, and as I'm going to paint only colour information I just simply selected the colour and fade options (Fig.63).

Inside Projection Master I open up the Tool palette and select the Plane3D object (Fig.64 – 65). With this technique I select a plane tool and apply one skin texture, simply selecting the image in the texture menu. I later decrease the Zadd so as not to create displacement with the plane. The RGB will be on, so I can project the image onto the model and can adjust it similarly to how you would when using the Liquify tool in Photoshop.

I then select an alpha with soft borders (Fig.66) and choose, from the Texture palette channel, the image I want to project onto the model. For

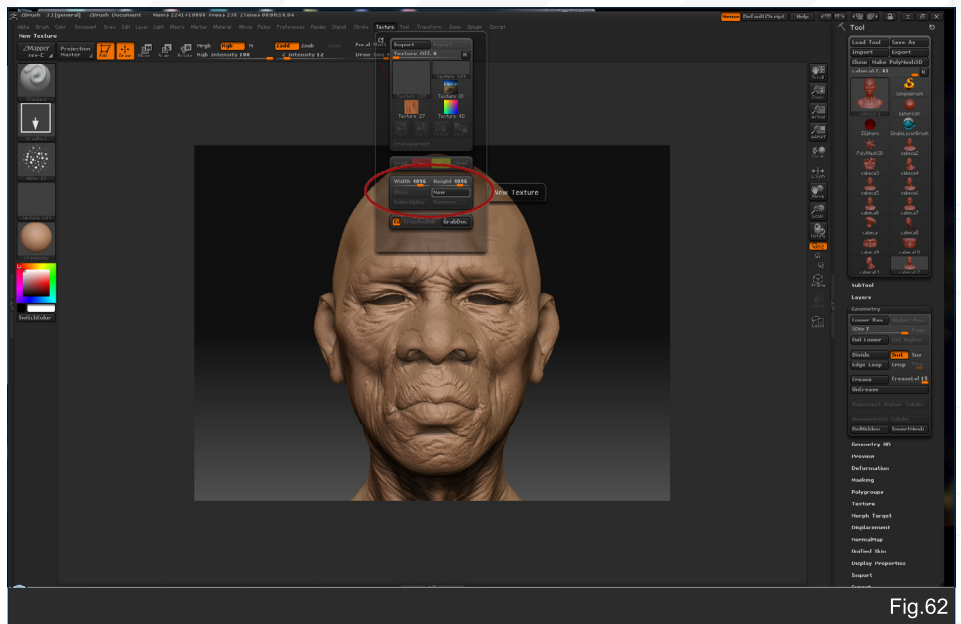


Fig.62

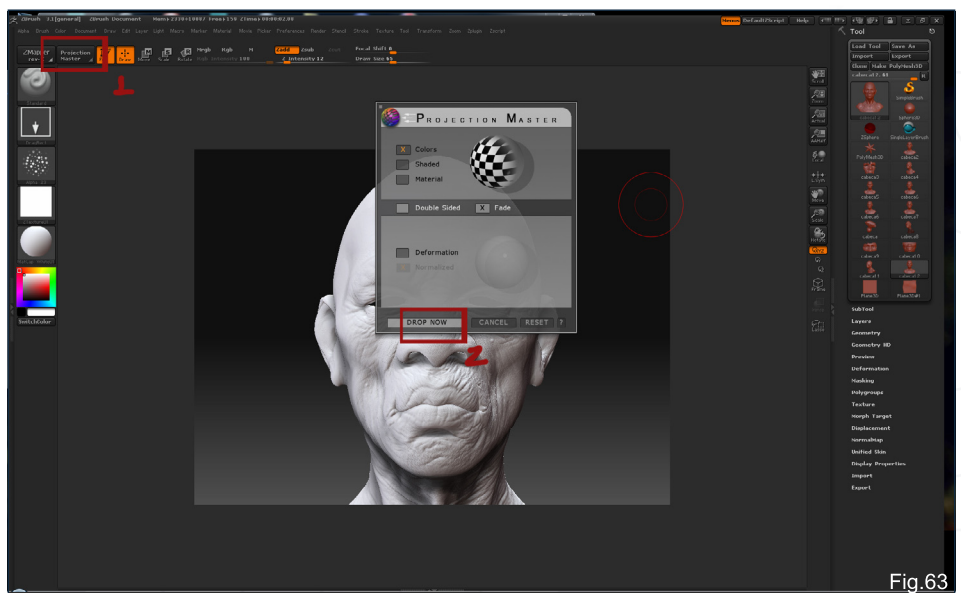


Fig.63

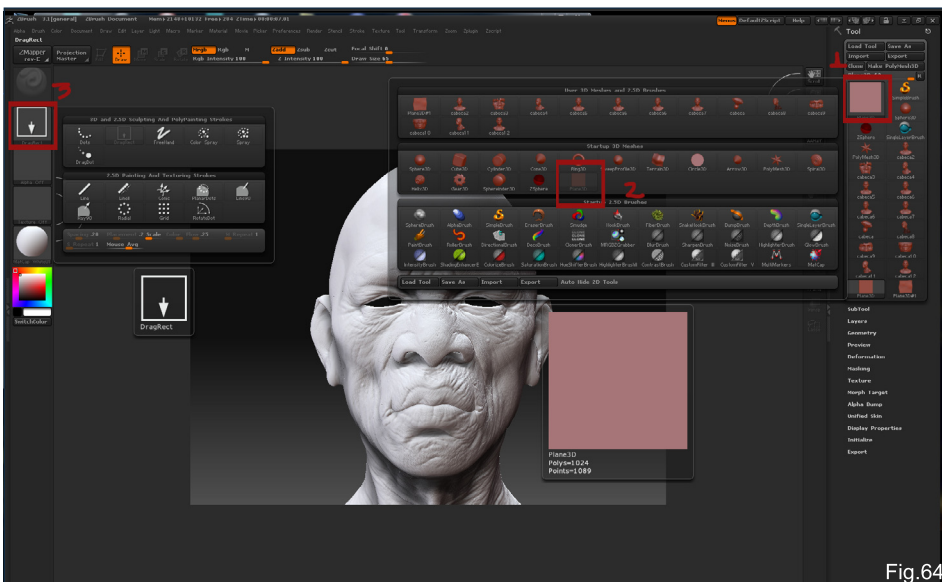


Fig.64

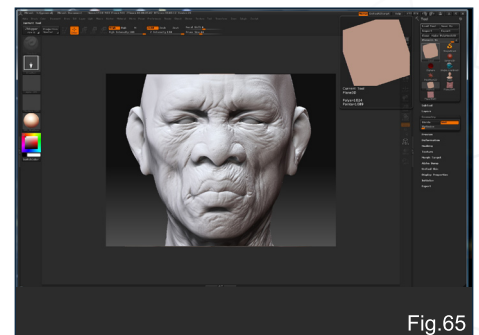


Fig.65

this project, I've created a library with some interesting skin tones for my character. These images have all been selected from the Internet and cropped to select just the interesting parts. I can simply import my images into ZBrush (Fig.67).



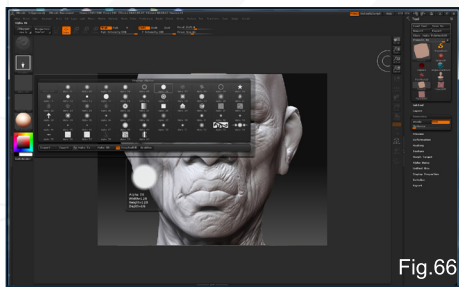


Fig.66

Before starting to apply the textures, it is necessary to lower the Z Intensity value to 0, or else the Projection Master will project the deformation of the 3D Plane. I also lower the RGB Intensity to block in the initial skin tones. This is similar to when painting in Photoshop; in ZBrush, if I lower the RGB intensity then the section of the model that I'm painting will be less intense, just like in Photoshop when you reduce the opacity. I use a 0 value of Z Intensity because I don't want to paint the Z information, only colour information (**Note:** Z information is the displacement information).

Here I start to apply colour to my model (**Fig.68**). Basically, the Plane tool is configured to its default settings with drag in the stroke, and so with this option you can drag images or alphas onto the model.

After blocking the skin tone in on the whole model, I start to define some more specific areas, like the mouth, and start to add some

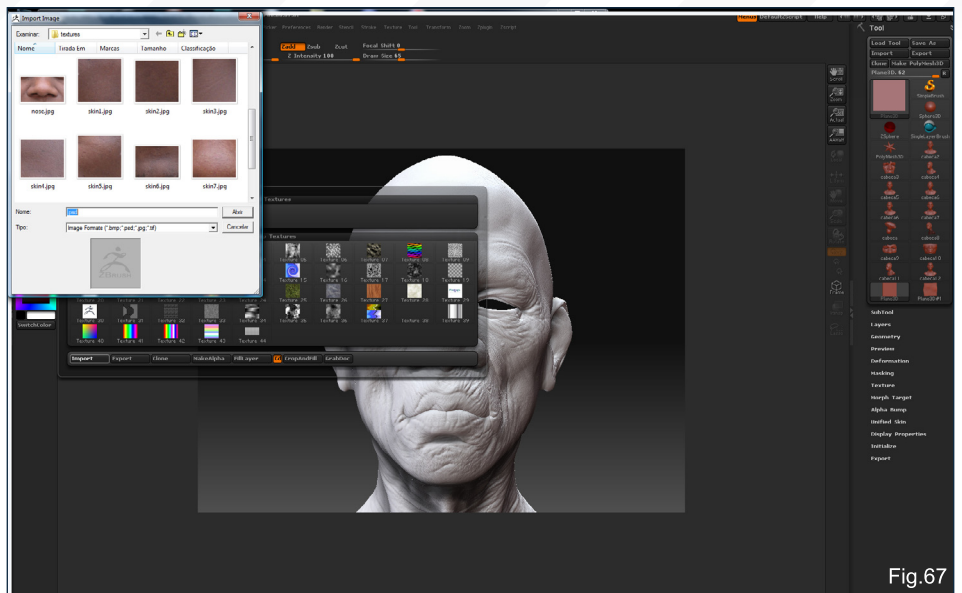


Fig.67

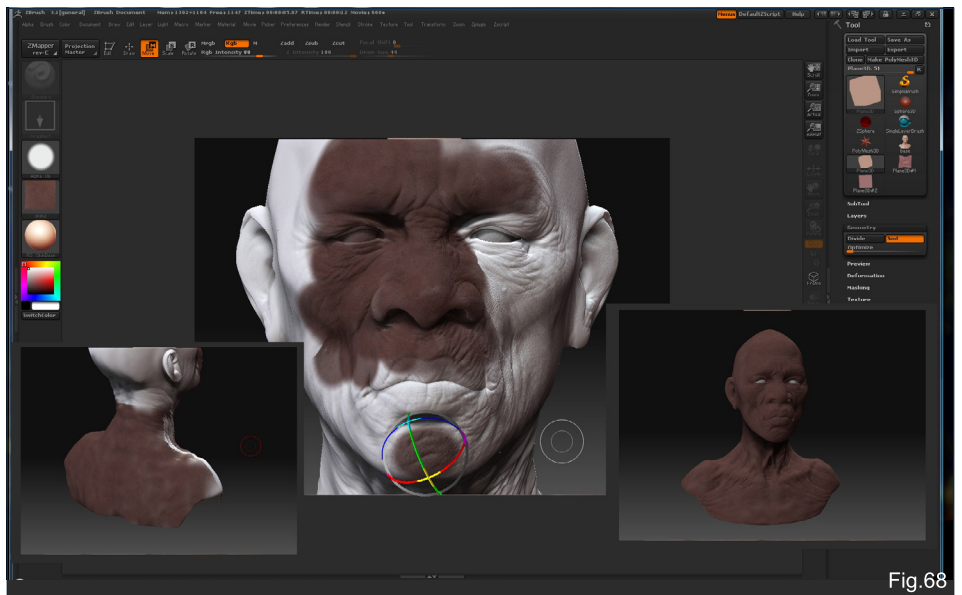


Fig.68

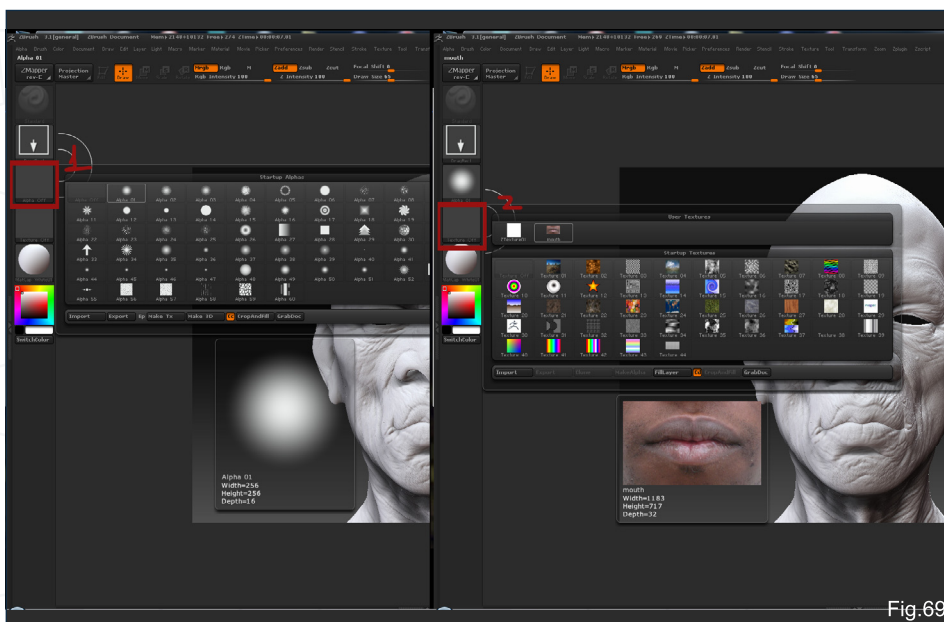


Fig.69

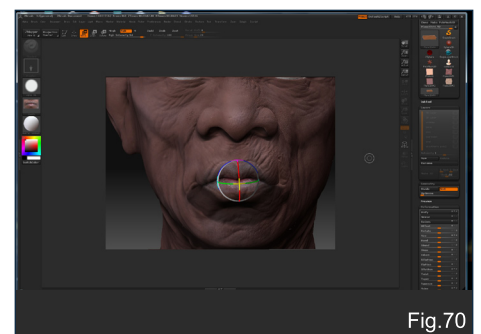


Fig.70

variations in the skin tones. In the case of the mouth I project the information in the same way (**Fig.69**), but I turn on the Edit button and then the Move Tool so I can make some modifications on the projected image (**Fig.70**). This is basically using the same process as before, but in this case I select the mouth area

of the model and with the Plane tool I apply it like another object, and make adjustments using the Move tool. Later, when I click G again (click on G to go out of Projection Master), everything that is on my model will be projected onto him (Fig.71).

I then start to project some other images from my library to change the colour of some other areas, like the nose, cheek bones, forehead, and so on (Fig.72).

Another very useful tool is the Highlighter brush, from the Tool Palette (Fig.73). With this brush I can highlight some areas and, by pressing the Alt key, I can darken other areas (Fig.74).

With the texture adjusted I can then start to insert some minor details, like spots and skin stains (Fig.75 – 76). The spots and skin stains I can add in the Projection Master again, but this time I select a simple brush in the Tool palette and select the stroke colour spray, and then in

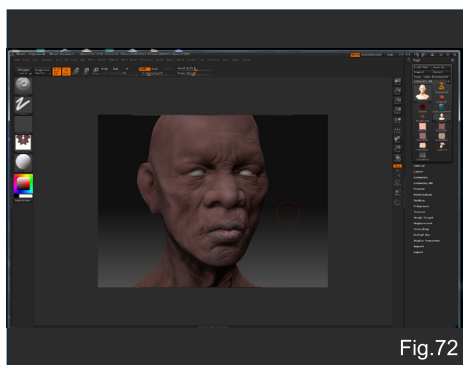


Fig.72

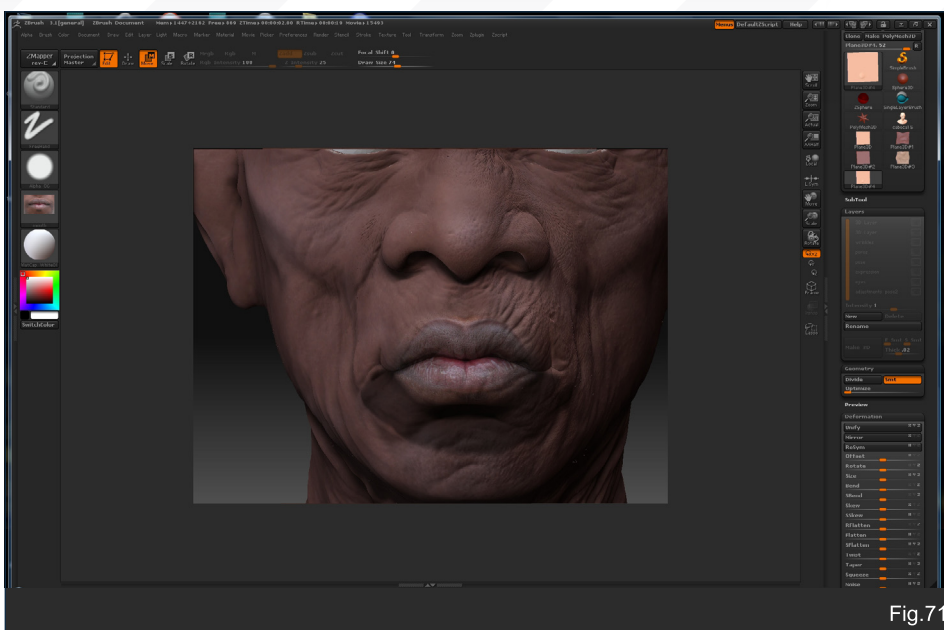


Fig.71

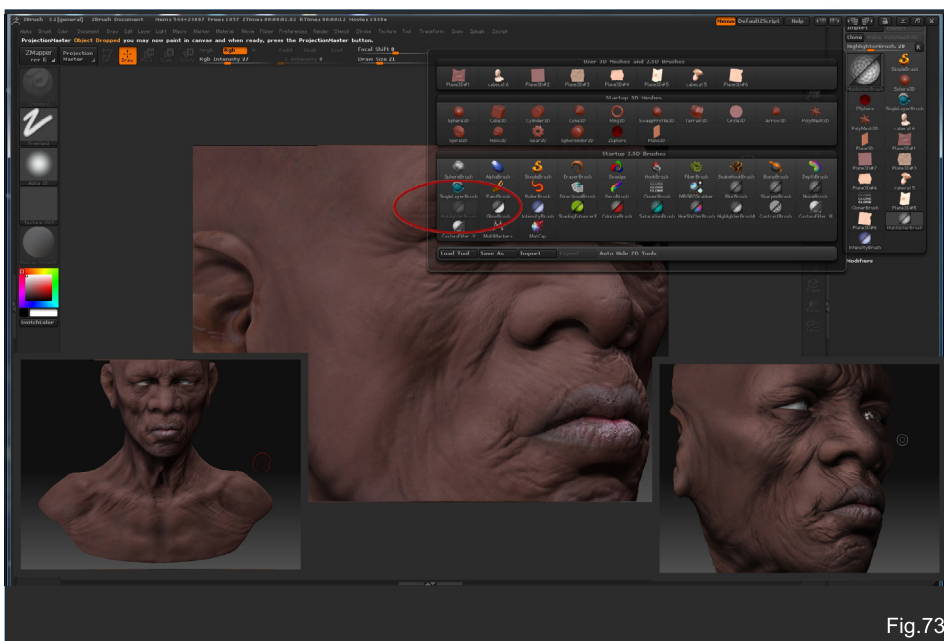


Fig.73

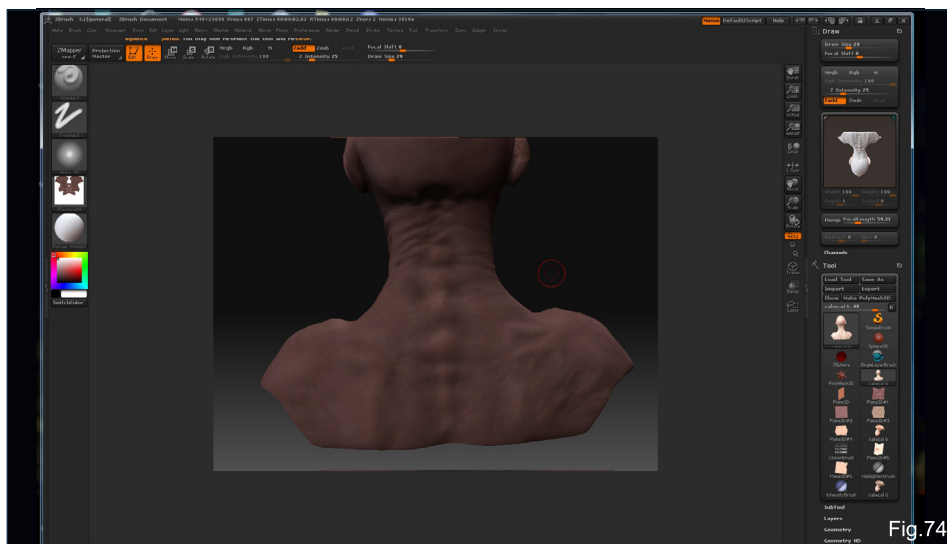


Fig.74

the alphas I select a small alpha like 44 or 45. This tool is great for adding smaller skin stains. I can adjust the radius of the brush to achieve different areas of stains.

Once the texture is finished I can create a mask based on the texture intensity (this option is located in the Mask palette in the Tool palette). With this feature I'll have a mask based on the texture colour variation so I can use the Inflat brush to transfer some texture details to the high poly model. I use this technique to build some more information on the mouth.



With regards to the eyes, I create them using the same process as for texture painting the main model; I prepare an eye image and then project it over an eye object (Fig.77). I then paint some colour variations and veins to get a natural-looking result. And here, at this stage, the model is finished (Fig.78 – 79).

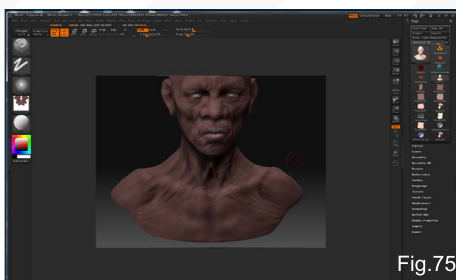


Fig.75

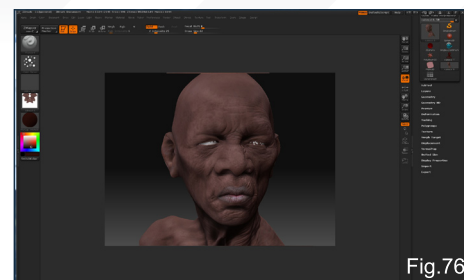


Fig.76

Here I apply some different materials and make some render tests to check out the final result. In the case of this image, I used a great “skinwax” shader made by Sebastian Legrain Sebceisor (<http://sebleg.free.fr/>), for the final render (Fig.80).

In the lighting setup, I turn off ZMode (with ZMode off I can concentrate the shadows), and increase the rays to 218 and the shadow length to 500 (Fig.81). These adjustments are made really only to create the shadows and to enhance the aspects that I personally like. So I’m basically controlling the intensity and aperture of the shadows here to get the desired results for my own personal tastes.

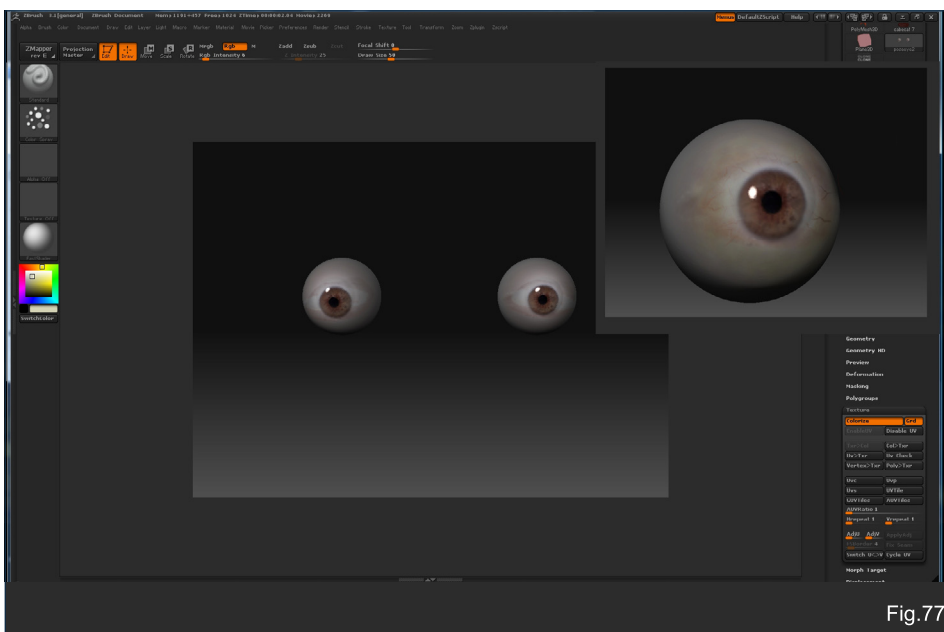


Fig.77

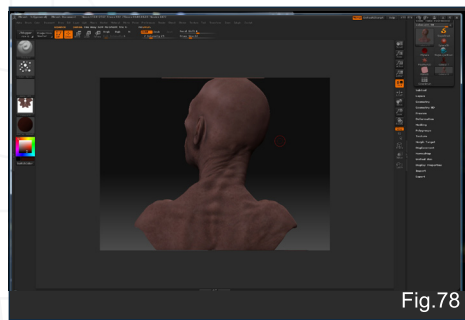


Fig.78

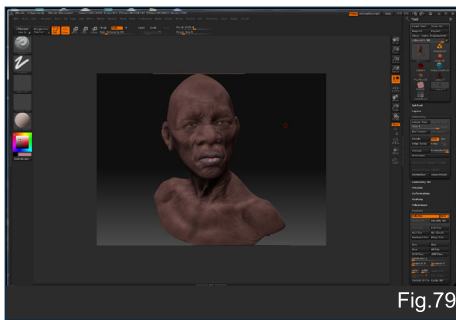


Fig.79

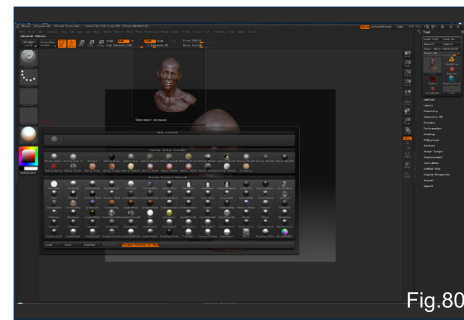


Fig.80

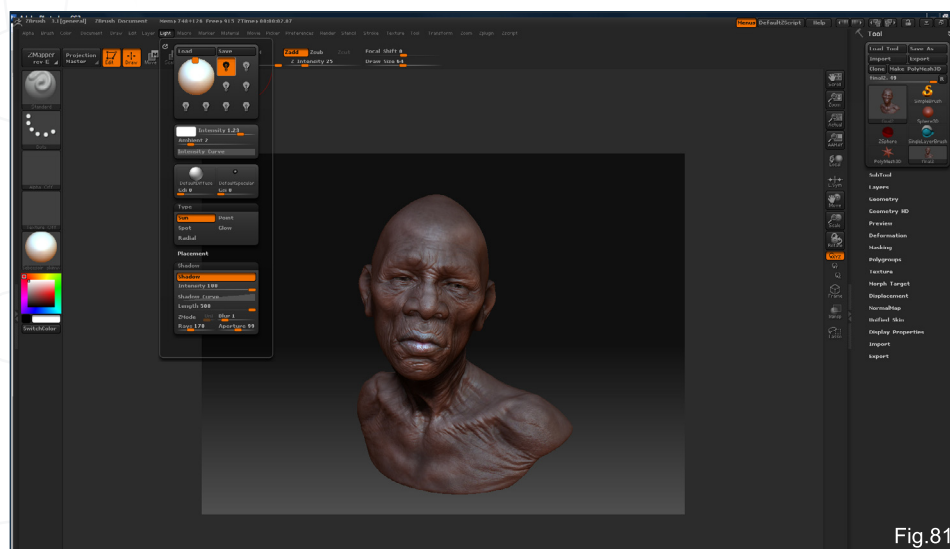


Fig.81

And all is done (Final.01 – 03)! I hope you like it. See you next chapter for the creation of an obese character!

Dont forget to grab your free bash mesh from the resource folder which accompanies this eBook.

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Chapter 2 **Obese**

# Obese

## CREATED IN:

ZBrush 3

## CONCEPT

Welcome back to the ZBrush Character Creation Tutorial Series. This chapter I decided to do some sketches to put my ideas down on paper and improve them. It's very quick to do some tests on paper, so I start off by drawing some variations of an obese guy and picking the best for me (**Fig.01**). In this case I've chosen an Asian obese guy. It's always good to work with references – not to copy, but to make your work more natural-looking (**Ref.01 – 05**).

## SCULPTING: FINDING THE SHAPE

I begin this character with the Move brush, trying to find the best shape. But, before getting too much into the sculpting we should review some very important things first! For example, in this tutorial I'm sculpting an obese guy, so I have to put the fat in the correct places to make it look believable. It's therefore very important to study references to understand about fat placement on a face and body such as this.



Ref.05

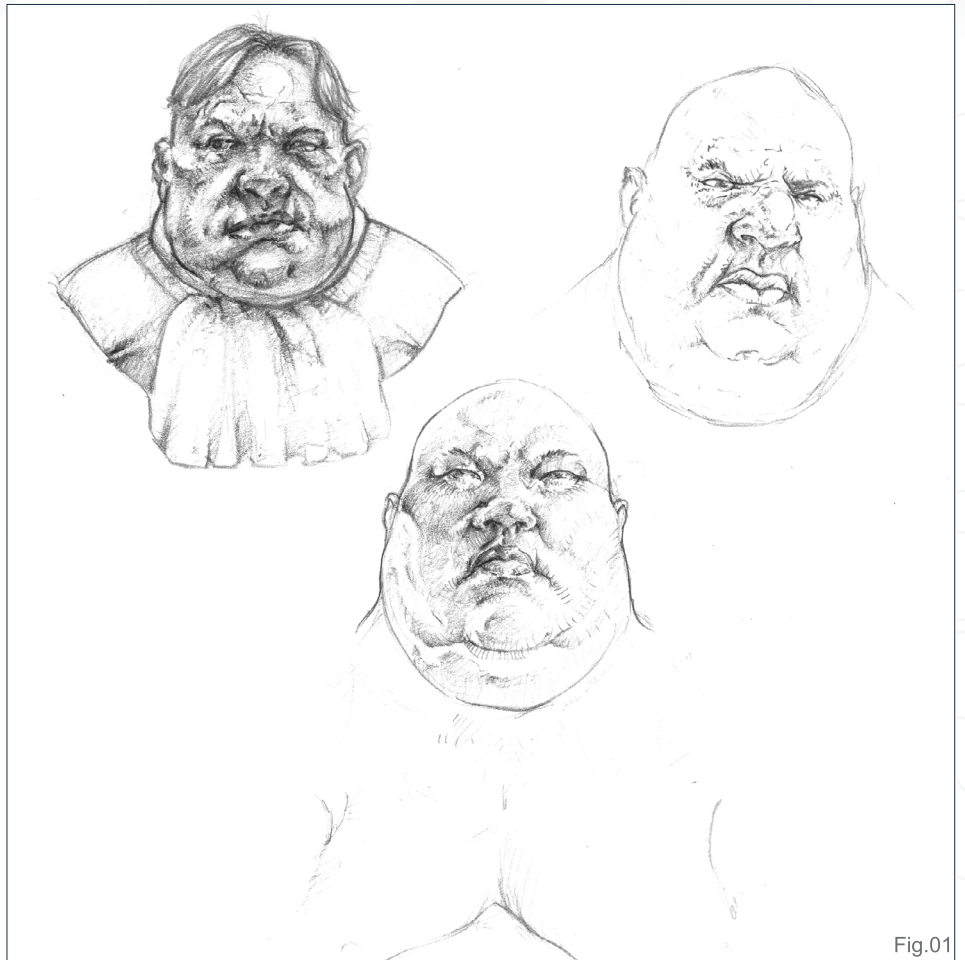


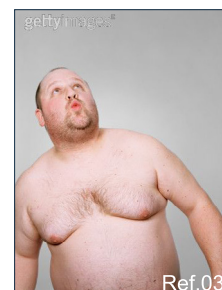
Fig.01



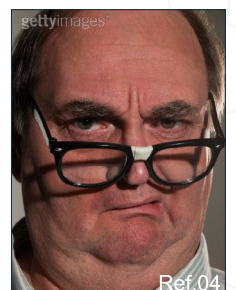
Ref.01



Ref.02



Ref.03



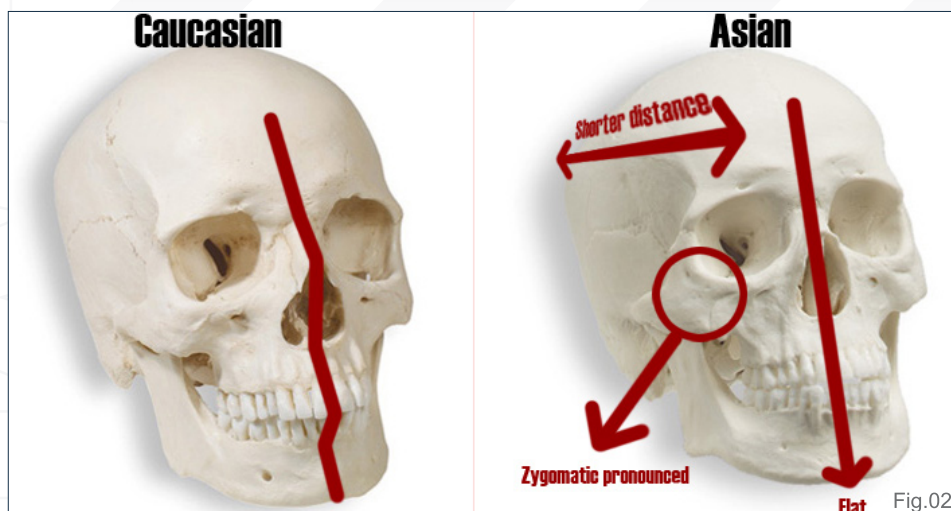
Ref.04

Also, in this particular case, we've got some other considerations to take care of: the first one being that the Asian skull type is different from a Caucasian or from an African. We can note that the front of an Asian face is flatter, the cheek bones are more pronounced and the distance

between the front and the back of the head is shorter (**Fig.02**).

Along with this, we can also take note of some of the areas with more fat. The upper part of the head is very similar to that of a thin/average-





sized person, except for the nape area where the fat usually stays between the end of the skull and the beginning of the spine. Fat can also be located under the low jaw (Fig.03).

These are the main considerations, and with these all in mind we can look for a better shape for the character without worrying about the details. And always remember to work the biggest shapes on a low resolution – subdivision level – and add more subdivisions when the smaller details are needed (Fig.04).

After finding the largest shapes first, I then add a new level of subdivision and start to block in some more specific areas, like the nose, mouth

and areas of fat. At this stage I'm using the Move brush and the Clay brush, both with low values of around 20 (Fig.05).

### SCULPTING: REFINING INDIVIDUAL SHAPES – MOUTH, EYES, NOSE EARS & AREAS OF FAT

With a good overall shape established, I can then start to refine the model with the Clay brush (or the Clay Tubes brush) to add more volume. The Standard brush can also be used to refine these volumes and to create some cavities. At this stage, I also start to add some nuances and start to block in areas of fat all over the character (Fig.06).

**Note:** When adding fat to your character, keep in mind that in the contact points the fat seems to be inflated. This happens because of the pressure it creates with the part it's in contact with. This pressure generates some volume displacement in these regions. This can be clearly seen between the fat under the cheek and the chest.

I continue to work individually on some areas, like the mouth, eyes and nose, to make it look closer to the references – or in this case, my initial sketch. At this stage I'm still using the Clay and Standard brushes and Alpha 39 to work on smaller areas, such as the brown cavities and regions with smaller details, and make

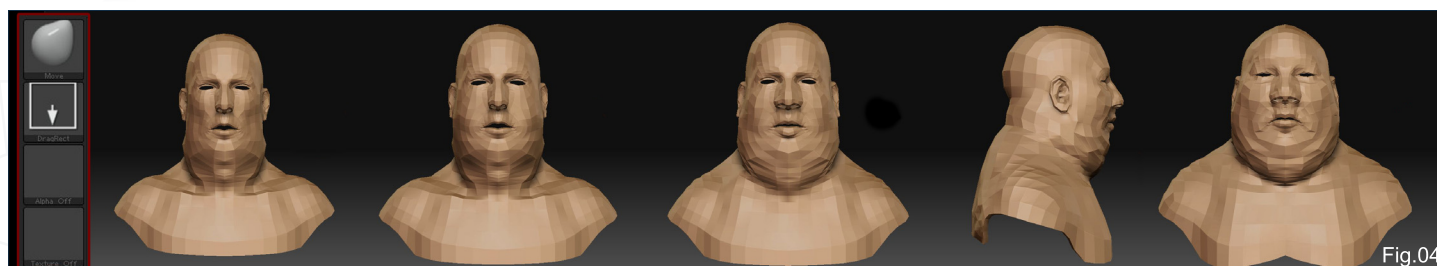




Fig.06

finer refinements. Always keep in mind that you should have references to look at whilst sculpting, to give a more natural look to your character (Fig.07).

## SCULPTING: DETAILS & FINAL ADJUSTMENTS

With all the shapes done we can start to work on the small details, like wrinkles and skin imperfections. I choose to work without specific alphas on this character. First I select the Clay brush with a small radius. With this brush I add small volumes to create the skin imperfections – one by one. This is a lot of work, but the final result is great! An interesting tip is to pick the Standard brush and lower the Mouse AVG to 1 (on the Strokes > Dots palette). The Mouse AVG option gives more continuity to the stroke,

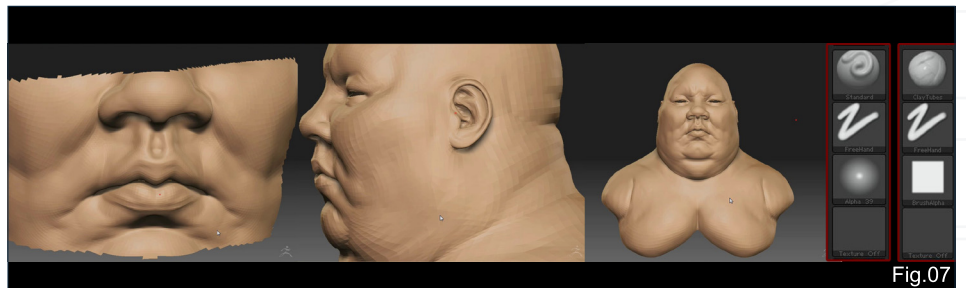


Fig.07

with no dots in it. Also choose a rounded alpha (like 44 or 45) and lower the brush radius. When creating fast strokes it's going to make some small dots – very useful for pores (Fig.08)!

To create smaller wrinkles I select the Standard brush, change the stroke option to Freehand and set the Mouse AVG to a higher level (like 4), and use the Alpha 38 (Fig.09).

Coming towards the end of the modelling process now, I work a little more on the fat regions, especially on the fat on the back of the neck – I will later select the head and make it smaller. To do this, I select the Scale mode and create a selection along the topology by pressing the Ctrl button and scaling it down. I then make the last corrections on the chest, shoulders, chin and neck to make it more natural-looking. To do this I use the Clay brush

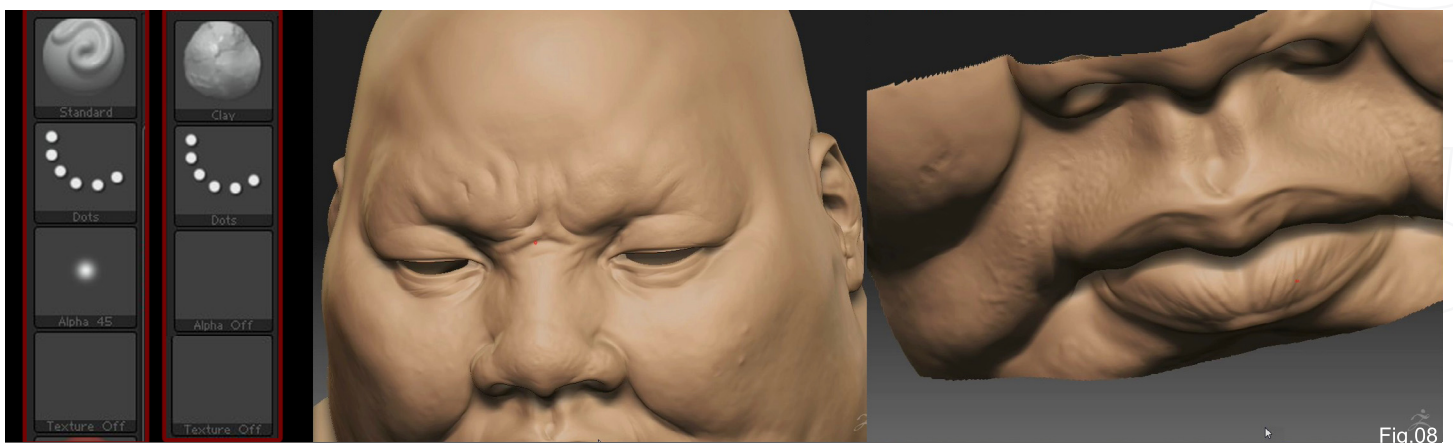


Fig.08



Fig.09





Fig.10



Fig.11a

for volume adjustment, the Standard brush for cavities and for the borders I use the Inflate brush (Fig.10).

And here the sculpting process is complete (Fig.11a – b).

## TEXTURING

After the modelling part I can start the texturing. With this character I am opting to use Poly Paint, which is nothing more than applying colour on the polygons. Go to Tool > Texture and activate the Colourise option. Then disable the Zadd option on the tools bar. With this done, I'm ready to paint colour information over the model.

I change the material to a white one so that I can see the colours without the interference of the material colour. I then choose a medium skin tone and on the colour palette I press the Fill Object button, which fills the object with the selected colour. I then change the stroke type to Colour Spray, select Alpha 44 and start to create some colour variation over the model, trying to find a good skin tone (Fig.12).







Fig.11b

Back to the freehand stroke now and Alpha 01, I start to paint the lips (Fig.13).

Once again, I change the Alpha to 38 and start to paint with the cavity option enabled on the Brush palette. When set to 0 it doesn't affect the brush, but when set to 100 it's going to paint only the higher values of the mesh; with the value set to -100 it'll paint only the cavity area of the mesh. I use this option to paint darker areas among fat areas and between wrinkles (Fig.14). On the Stroke palette I select the Drag Rect option and with Alpha 06 I start to add some spots over the character, making it more realistic and more natural (Fig.15).

For the eyes I use some photos found from an Internet search. I take them into Photoshop

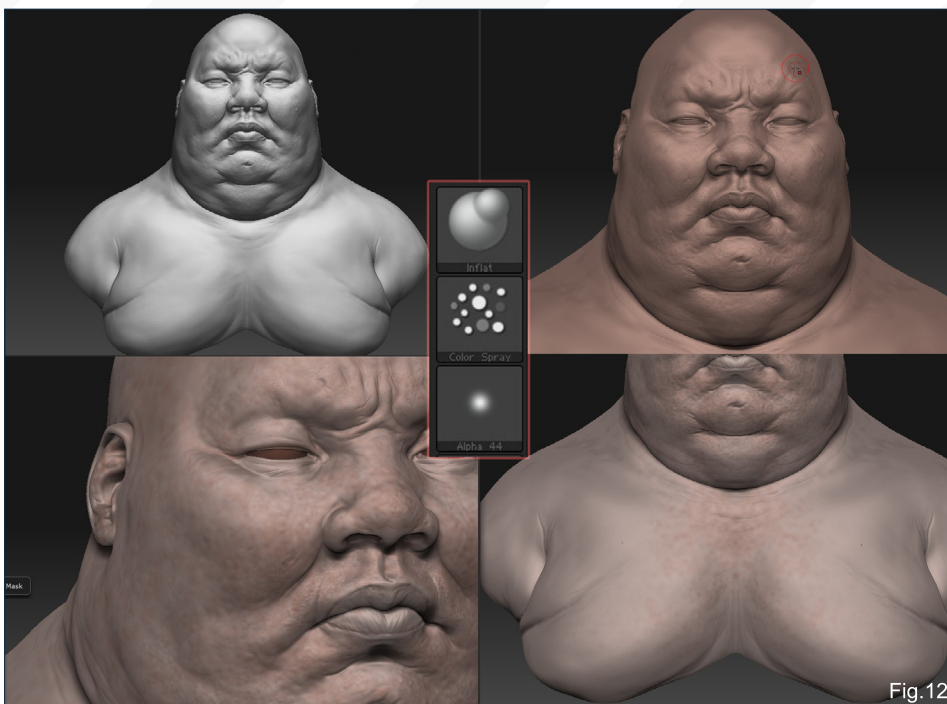


Fig.12

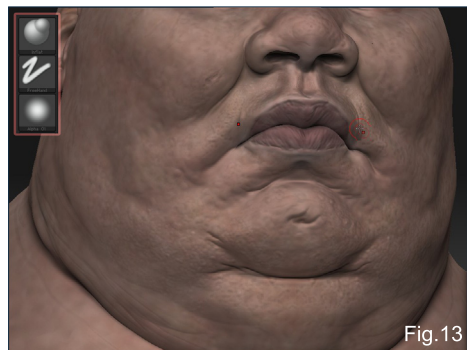


Fig.13

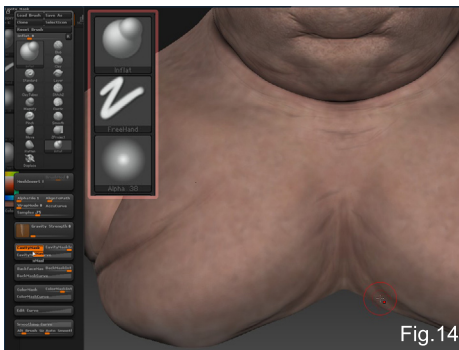


Fig.14



Fig.15



Fig.17

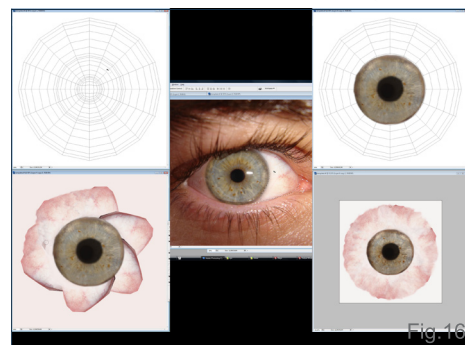


Fig.16

and plug in my UV template. I paint out the reflections with the Clone tool in PS because the reflections will be added later on in the final render. I also use the Clone brush to complete the white part of the eye – it's a very simple texture (Fig.16)!

I then import the eye texture into ZBrush. I add some subdivisions onto the eye tool and transfer the colour texture information to the



polygons (Poly Paint). This is needed because ZBrush doesn't work with multiple texture maps (Fig.17).

After finishing the texture, I select the eye and apply the toy shader to it; for the head I apply a skin shader made by Sebastian Legrain (<http://sebleg.free.fr/>).

For the light I just change some attributes: I change the light intensity to 1, the ambient to 0 (overall lightness), the shadow intensity to 354 (for a strong shadow), the rays to 186 (for better quality shadows), and the aperture to 80 (to concentrate the shadows) (Fig.18).

And finally, here is the final render made in ZBrush (Fig.19a – b).



Fig.18



Fig.19a

I hope you have enjoyed this second tutorial of the series. Next chapter I'll be describing the creation of a "Steroid-Pumped Guy".

**Note from the Editor:** Rafael Ghencev has kindly provided us this time with movie footage detailing the creation of this Obese character to accompany Chapter 2 of our Character Creation Tutorial Series for 3DCreative, all of which are available to download here now! Simply click on the "Free Movies" download logo and you're away!

## RAFAEL GHENCEV

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Or contact:

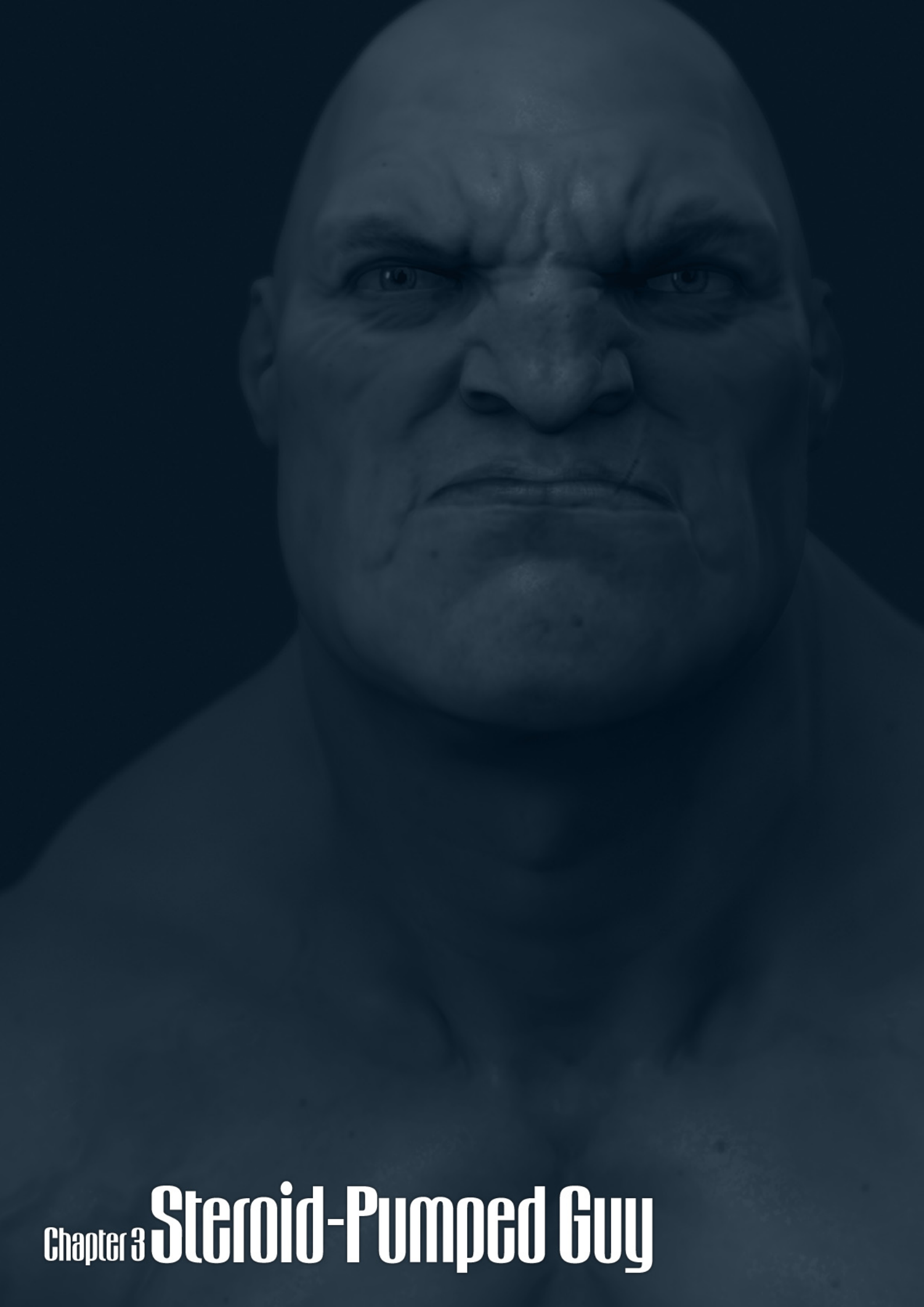
[rgvencev@yahoo.com](mailto:rgvencev@yahoo.com)







Download the  
modelling movie here!



**Chapter 3 Steroid-Pumped Guy**



# Steroid Pumped Guy

## CREATED IN:

ZBrush

## CONCEPT

Hi everyone, I'm back again with the next part of the series, tackling the creation of a steroid-pumped male character. For this character I already had in my mind what I wanted, so I simply made a quick concept to get my idea down onto paper (**Fig.01**). I wanted to do something a little different this time – not as realistic as the previous parts of this tutorial – and so I decided to go for a more stylised character for this theme.

The first thing I would like to mention is how to get good proportions in order to give your character more power. With the creation of a stylised, steroid-pumped guy, some of the proportions can also be exaggerated that little bit further. In my concept I basically decided that I wanted to make his trapezius and deltoid muscles very strong and large, whilst having his head hanging quite low, so this means I will have to play around a little with his muscle proportions. Another thing I decided I wanted to do in my concept was to make the top of his head very short, because this, along with the

large jaw, suggests a character with a great strength – a small brain perhaps, but powerful in terms of his physical strength.

## FINDING THE SHAPE

So with all of the decisions made with regards to the concept, I can start to model. At this stage it is very important to concentrate only on the

shape, forgetting the details and the temptation to add more levels of subdivision to your model. If your low poly shape is not good, increasing the polygons will do nothing to help anyway. The first thing to do is to fix the proportions between the head and body using the Transpose tool. I select the tool and press the Control key to make the selection for the

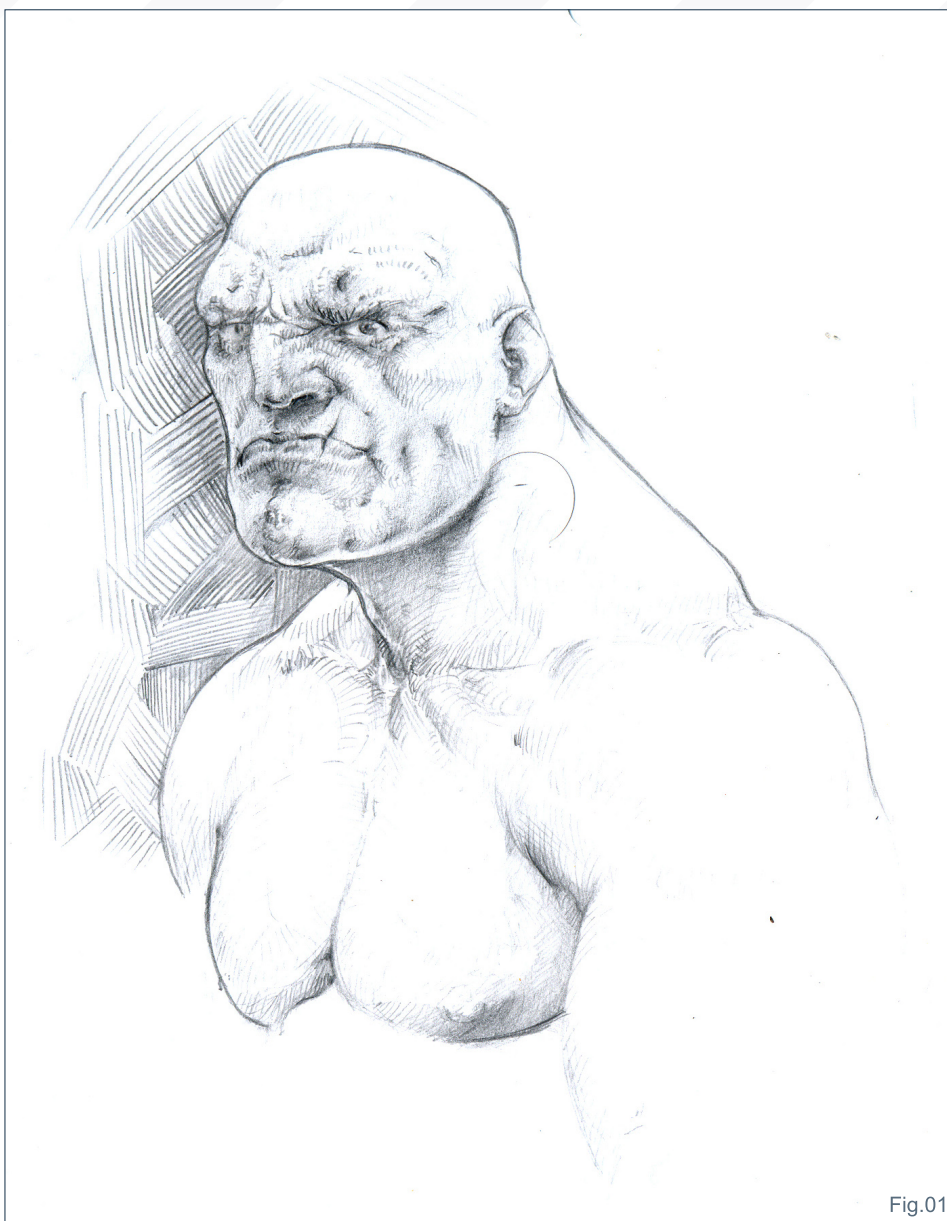


Fig.01

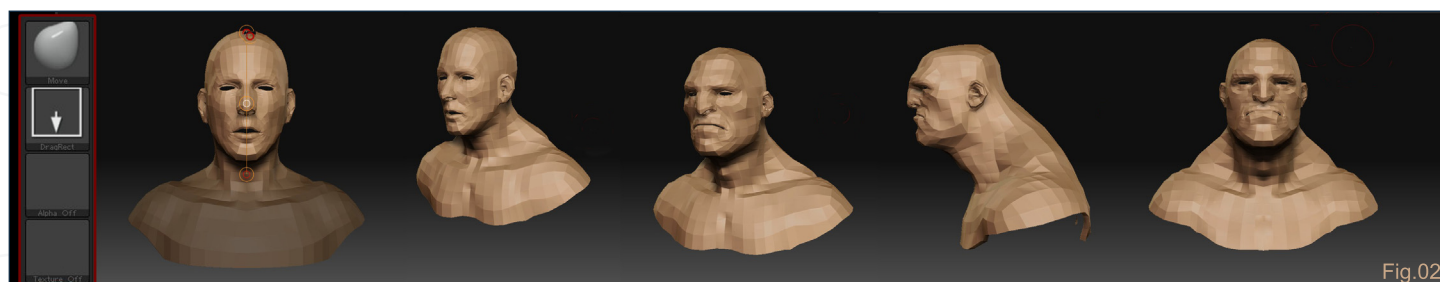


Fig.02

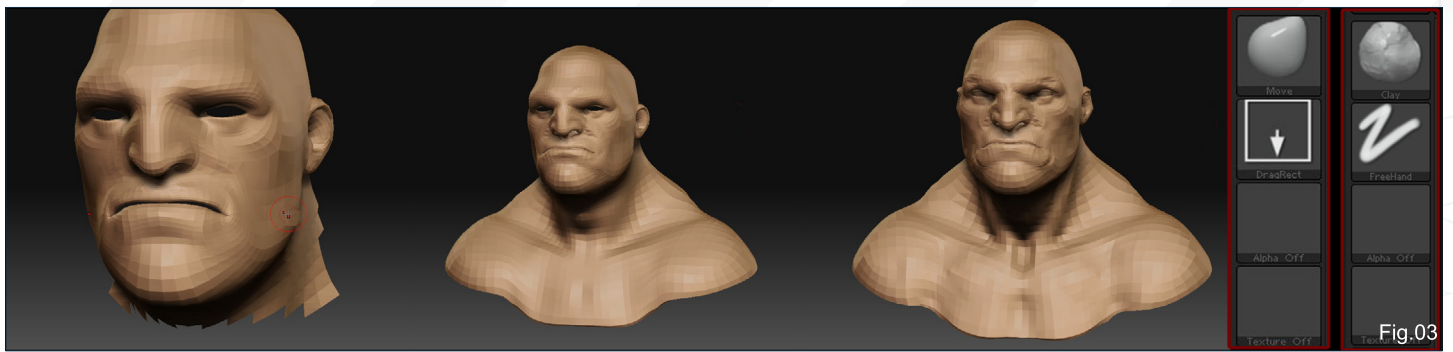


Fig.03

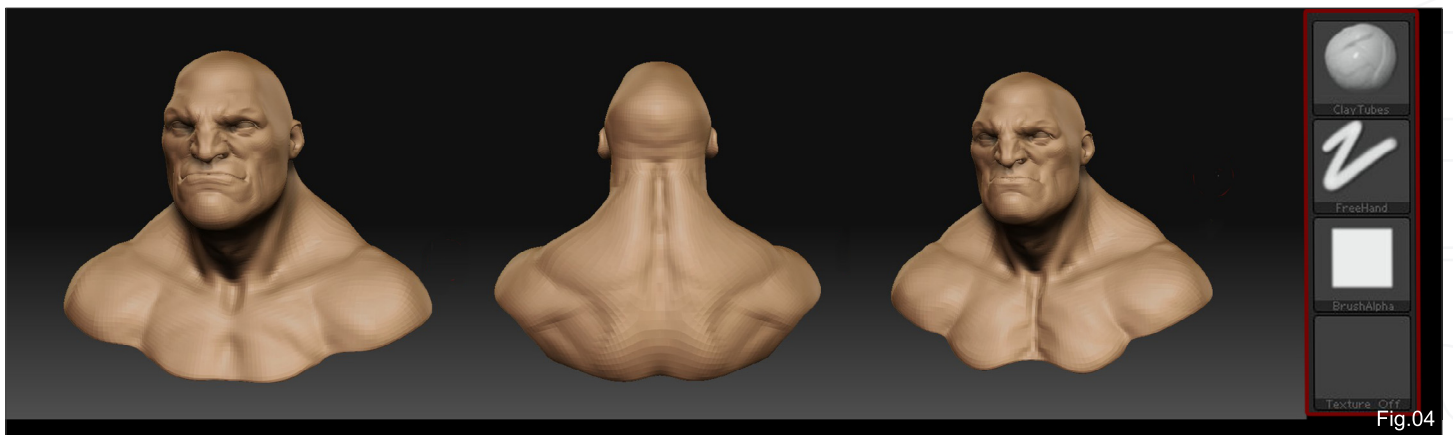


Fig.04

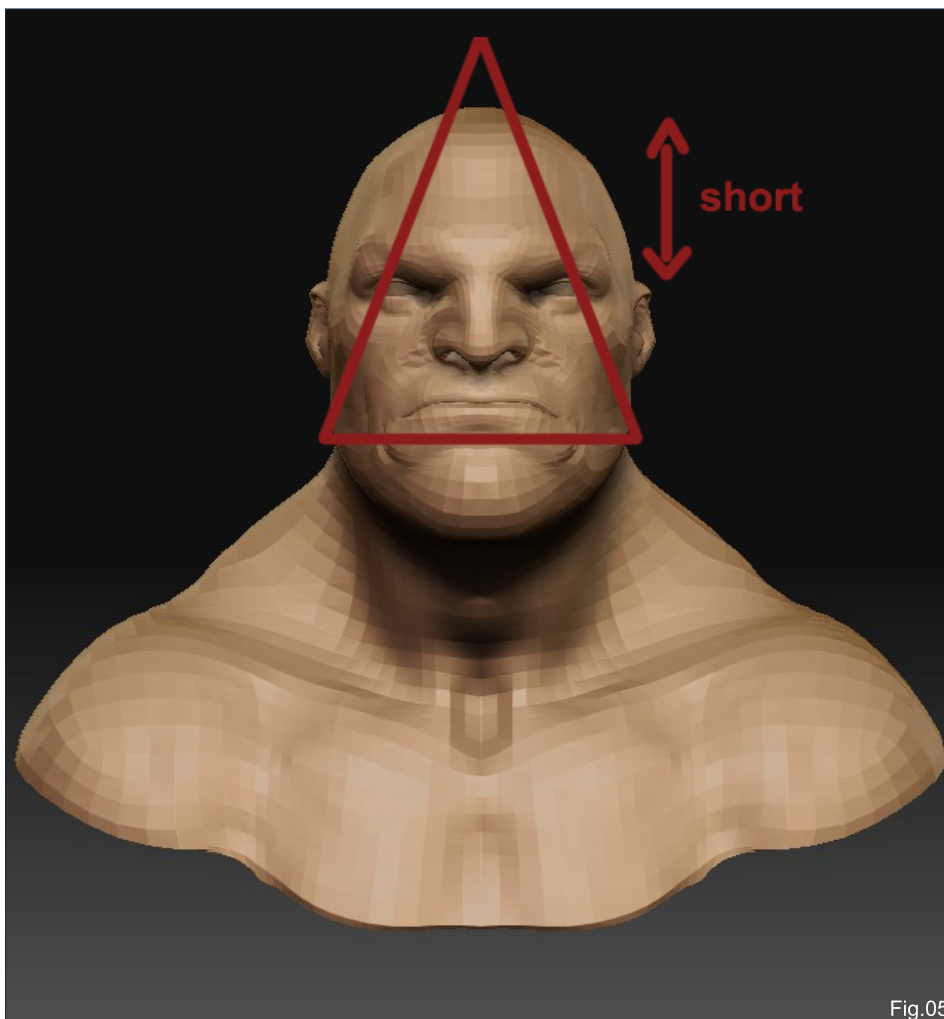


Fig.05

topology, and then scale the head. I then select the Move tool with large focal size and start finding the overall shape (Fig.02).

When the basic shape is okay, I add more levels of subdivision and start to refine the shape further. Using the Move and Standard brushes with low values, I start blocking in some of the muscles and parts like the mouth, eyebrows and nose, but at this stage I am still only working on the overall shape (Fig.03). This is the most important part of the sculpting process, so take your time at this stage to make sure you achieve a good model to work with.

## REFINING THE STRUCTURE & INDIVIDUAL PARTS

With the overall shape defined, I use the Clay brush to start adding more elements to improve the shape, such as variations in the muscular volumes and in the shape of the skull, etc. At this point I can also start to refine the individual parts like the nose, mouth and eyes (Fig.04).

**Note:** Working in a low level of subdivision is very good for blocking in the overall shape, but



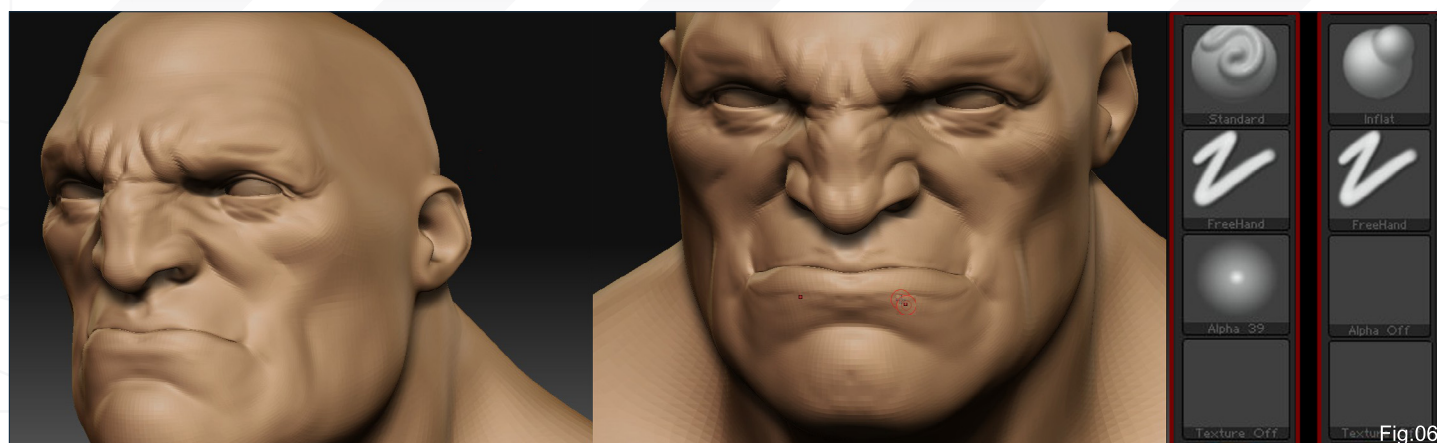


Fig.06

to refine the individual shapes it's advisable to make one or two subdivisions to get more polygons to work with.

You can observe from the images that I am sculpting his head into a triangular shape to give him more strength (Fig.05). It is very important to always use references whilst you sculpt, in order to make good characters.

## REFINING THE MUSCLES & DETAILS IN THE FACE

With the shapes done, I start to block in some of

his expression into the wrinkles of his eyebrows, and refine the muscles in the face.

**Note:** It can be very useful to hide some parts of your model in order to concentrate your attention on specific areas.

I decide to exaggerate his facial muscles, too, so here I make some subtle differences in the muscles under his skin, using the Clay brush. In the eyebrows I sculpt some wrinkles using the Standard brush, with alpha 38, and then use the Inflat brush with a low value to give a more

natural form. On the mouth I use the Standard brush to mark the division between the upper and lower lips (Fig.06).

Here I work on shape of the ear using the Standard brush and Move tool for the basic form, and then use the Flatten brush a little to achieve a more natural look for certain part of the ear, such as the outer rim (Fig.07).

On his chest I start to mark the muscle connections with the Clay brush, with a medium value. The pectoralis muscles are connected in

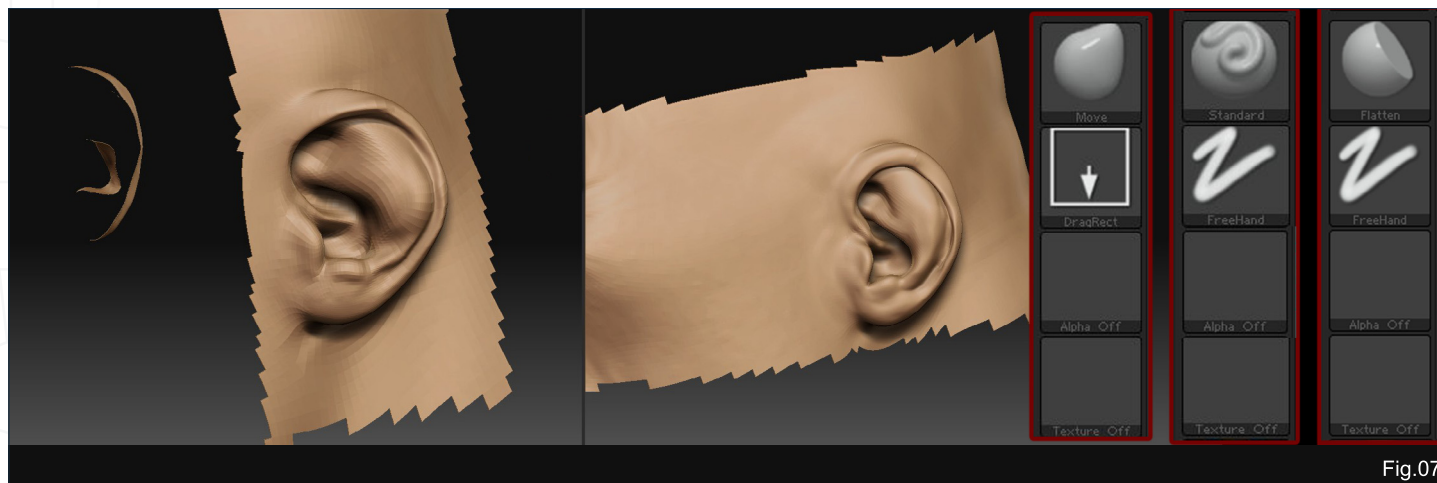


Fig.07



Fig.08



Fig.09

the humerus, ribs and sternum. With all these things in mind, I try to give to him a natural muscular shape, and I do the same thing on his back (Fig.08). I find it very helpful to search for references on the Internet when sculpting; in this case bodybuilding pictures and videos were particularly useful.

## FINAL DETAILS

This is the time to start improving the details. I wanted to make this character fairly clean, without too much information in his face; I aimed to put only the essential details in his face, along with some important wrinkles in the brow, around his eyes and on his neck, and some skin imperfections.

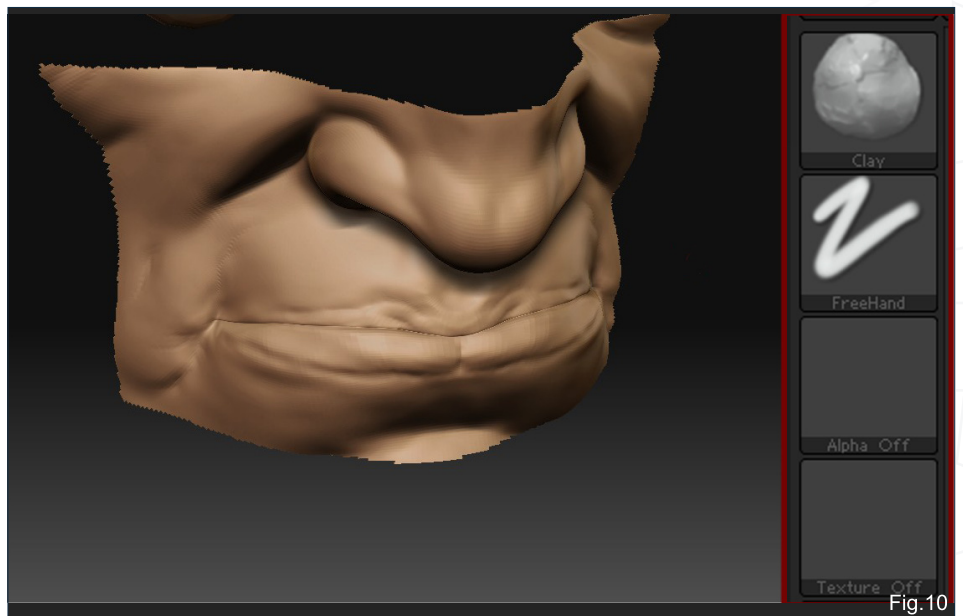


Fig.10

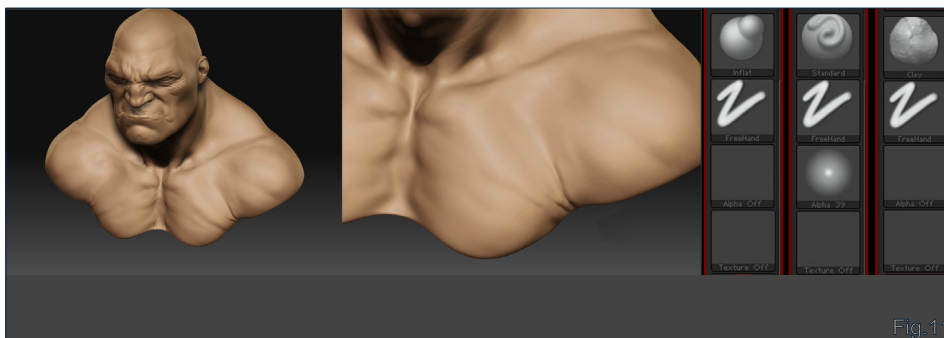


Fig.11

To refine the wrinkles in his brow and to make further wrinkles on his face, I use the Standard brush with a low size and alpha 38, and the Inflat brush with a low intensity. I use the same brush on his neck and also to add the scar across his lip (Fig.09). To make the wrinkles in your model look convincing, it is very important that you use references to analyse the paths that wrinkles follow in particular areas.



For the lips I use the Clay brush with a low radius to add some volume and to show the effect of the tension between the upper and lower lips (**Fig.10**).

Back to the body, in the connection between the chest and the deltoid muscle, I build up the skin a little using the Standard and Inflat brushes, and with the Clay brush I refine the details of his chest muscles (**Fig.11**).

I take the model back down a few levels of subdivision and break the symmetry to make everything look a little more natural (**Fig.12**).

Stepping back up in the levels of subdivision, for the skin imperfections I choose the Clay brush with a very low radius and the Mouse Average set to 1, and start to make them one by one. This is a lot of work, but the end result is great (**Fig.13**).

Here I add some veins to the character's head, neck, chest and shoulders, using the Standard



brush with alpha 01 (**Fig.14**). And here is the final un-textured sculpture (**Fig.15**).

## TEXTURE

I decided to use a projection method to texture

this model, so the best way to do this in ZBrush is using Projection Master, because we'll have total control and I can change the projection of the images – just like the Liquify filter tool in Photoshop.

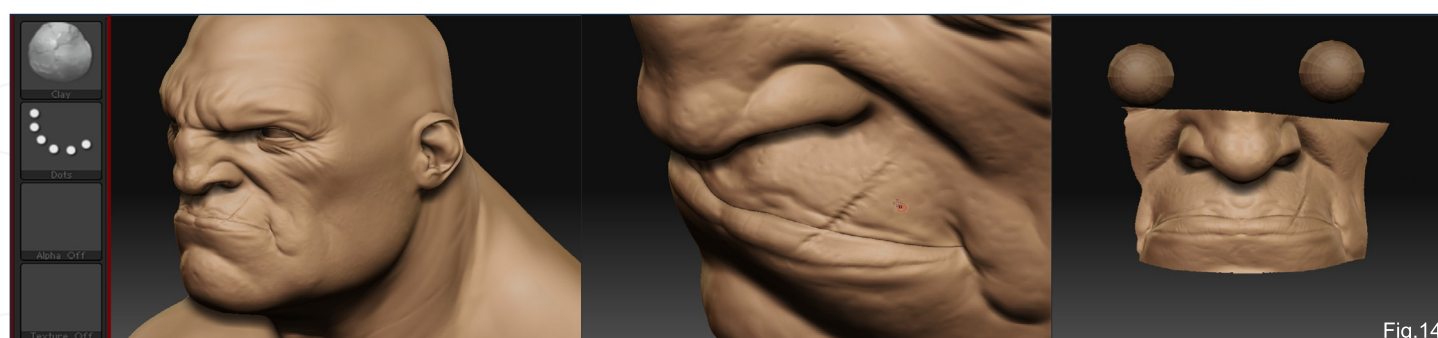
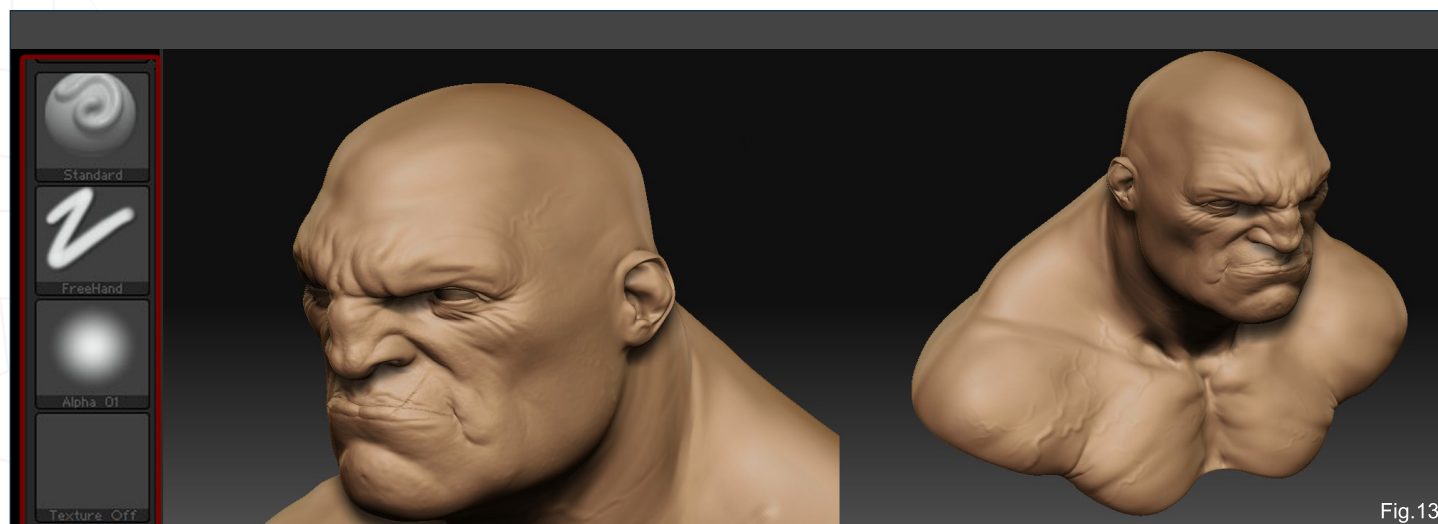








Fig.15

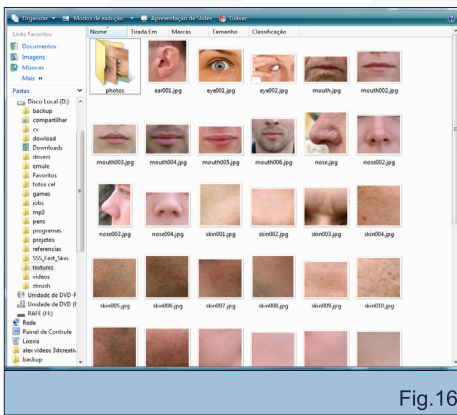


Fig.16

To start the texturing process I start like I always do: changing the shader to a white one, creating a new texture for the texture palette, and turning off the perspective to avoid any texture distortions.

Inside Projection Master I choose the Plane 3D object, select an alpha – in this case I used one with soft borders – and in the Texture palette channel I pick the image that I want to project onto the model. I created a library with some interesting skin tones to use for my character (Fig.16).

Before starting the projection of the images, it's necessary to lower the Z Intensity value to 0, otherwise we'll get deformations in the model and we can't allow this. I also lower the RGB Intensity to block in the initial skin tones.

The first projection I do is the mouth. After the projection I turn on the edit mode, pick the move



Fig.17



Fig.18



Fig.19



option and then start to fix and snap the image to my character's mouth. I do the same thing with the eyebrows and the nose. I can then start blocking the skin tone in, and for this I adjust the intensity to around 50 – 60. Once the skin tone is done, I can then project some images of stubble onto the model (**Fig.17**).

It's always great to paint details and make the corrections of some things freehand. So inside Projection Master I pick the single brush and paint some colour variations between cavities, like between where the muscles connect and where the skin wrinkles (**Fig.18**).

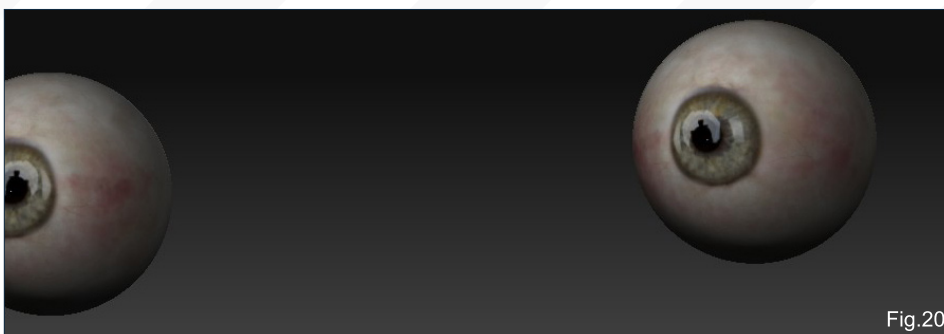


Fig.20

I change the colour of my brush to a green tone and start to paint the veins, continuing to use the single brush. Then to finish off the texturing, I add some spots/freckles all over the character to give him a more realistic appearance (**Fig.19**).

For the eye texture I also do a projection (**Fig.20**).

For the render I start to configure the light, so I change some attributes here. I increase

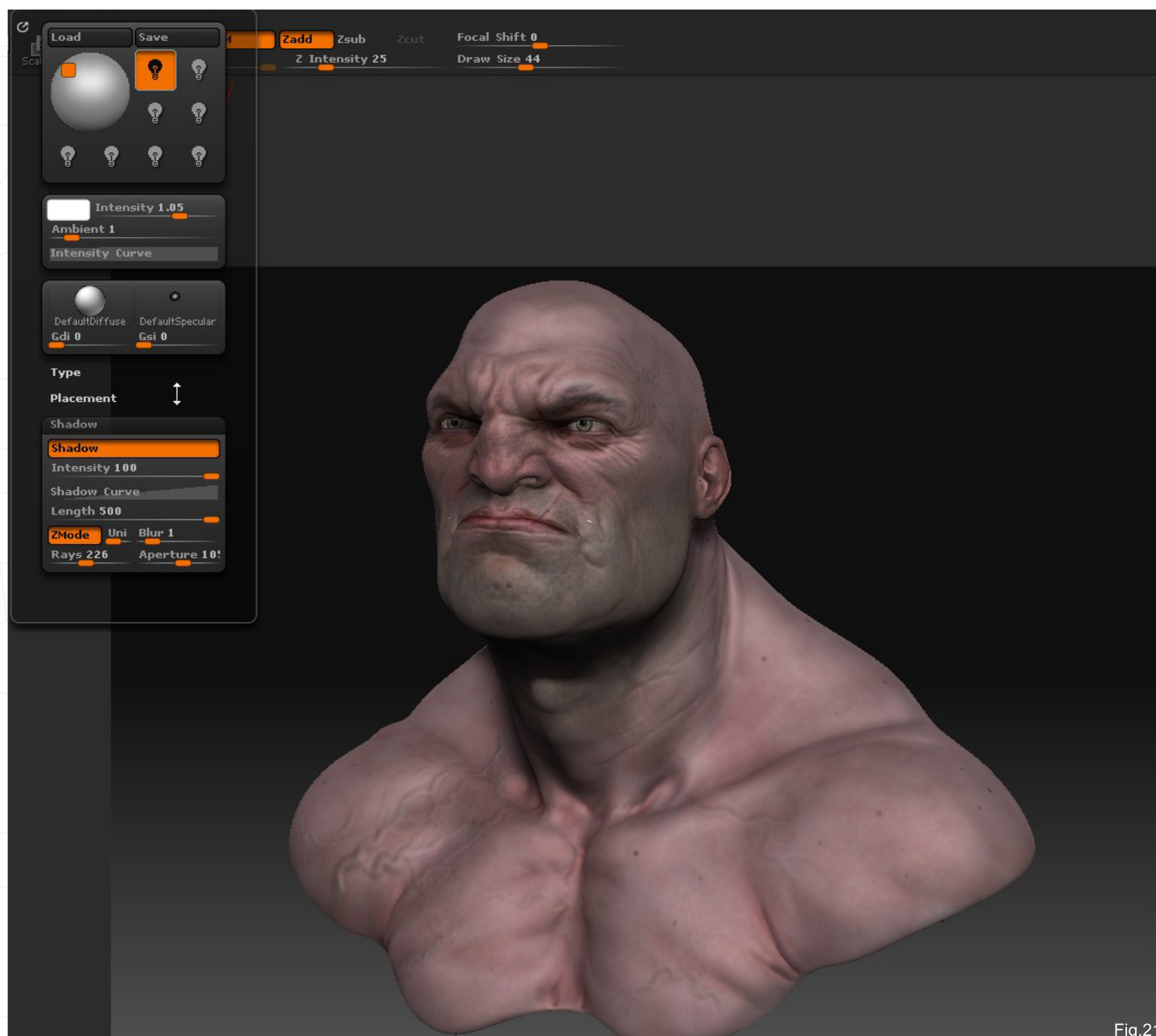


Fig.21



the Rays to 226, the Aperture to 105 and the Shadow's length to 500. I also turn on the ZMode to give a fake GI look (**Fig.21**).

For the shader I choose a TriShader from the materials palette and mix that with a free skin shader from the ZBrush Central MatCap library, making some changes to the intensity of the shader. For the eye, I simply use the toy shader from the shader palette.

And here the final result (**Fig.22** and **Fig.23**) – I hope you like it!

See you next chapter for an extreme pierced and tattooed character.

### NOTE FROM THE EDITOR:

Rafael has kindly provided us with some video footage from the creation of this character to accompany this tutorial article. There are seven accompanying movies that you can download (click on the Free Movies icon). Please note that due to computer problems the first stage of the sculpting process has been lost, so the videos concentrate on the detailing and texturing processes only.

## RAFAEL GHENCEV

For more from this artist visit:

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Fig.22  
Fig.23





# Chapter 4 **Extreme Piercings & Tattoos**



# Extreme Piercings & Tattoos

## CREATED IN:

ZBrush

## CONCEPT

Hello, I'm back with the next part of this tutorial series: this chapter I'm working on an extreme pierced and tattooed guy and I've decided to go for a punk. I've also chosen not to do an initial sketch this chapter; I'm just going to use ZBrush using the Move brush to get a feel for my sculpt and find my character. This method is good for having fun in ZBrush, but if you're creating a character for a job then it's much better to make a drawing beforehand, and it will also save you some time. To help me with inspiration for this project, I first of all searched online for some interested pictures

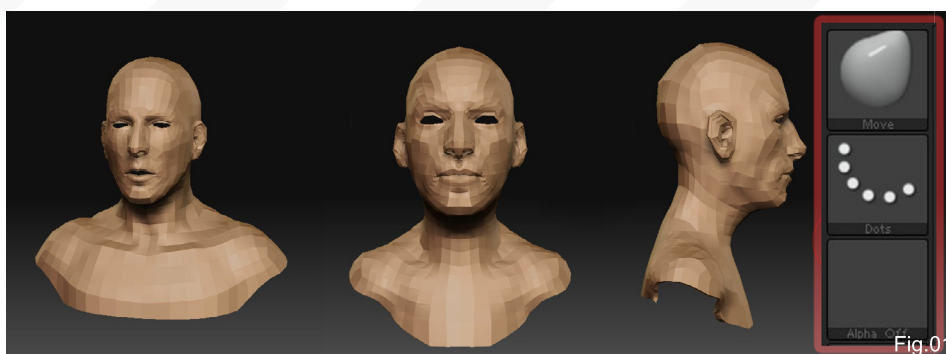


Fig.01



Fig.02

of punk characters, and tattooed and pierced people, to give me some ideas for my own character design.

## FINDING THE SHAPE

After searching for and gathering reference images, I start by finding the initial shape in ZBrush, using the Move brush. I play with this tool and search for a good shape for my

character (Fig.01). I want to create a fairly thin character, but at the same time I want to search for a character with a strong spirit.

After finding a good shape, I divide the model and start to refine the basic shape (Fig.02). I continue using the Move brush to handle some big areas; the Standard brush is also used to create some volume, like the eyebrows and the shape of the nose. For the zygomatic (cheek) bone and other small volumes, I use the Clay brush.

Like always, it's very important to spend plenty of time on this part of the process, because we're forming the essential structure of the character. Once established, I can then spend a little more time defining the shape of the nose, etc.

I'm working here with the Clay brush to mark some bones under the skin and to give him a more natural shape, after working on the mouth and eyes, marking the lips and the bone structure around the eyes (Fig.03). I'm still just focusing on the basic shape at this stage.

## INDIVIDUAL SHAPES

When the basic shape has been found, I can then start to refine the individual shapes. Here I can spend more time on individual areas, hiding



Fig.03

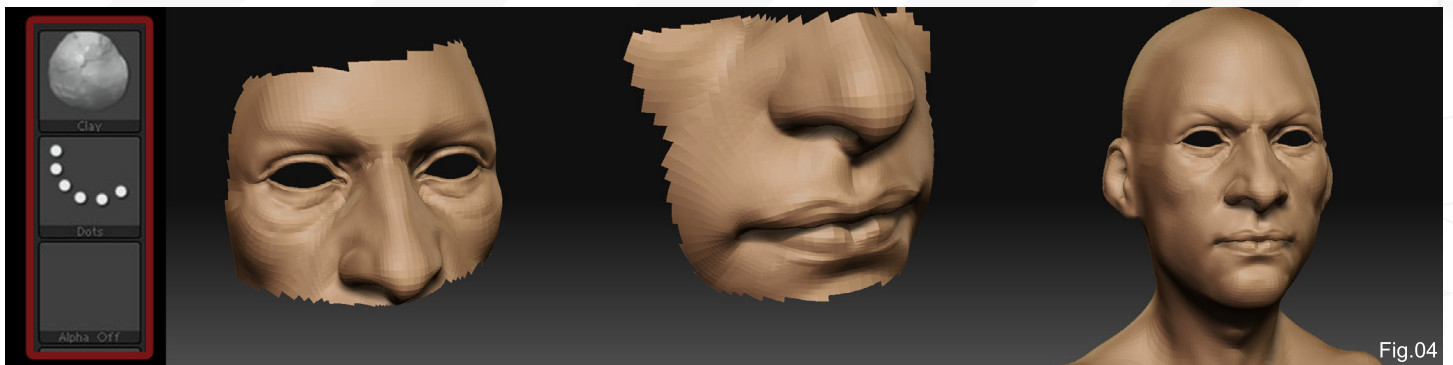


Fig.04

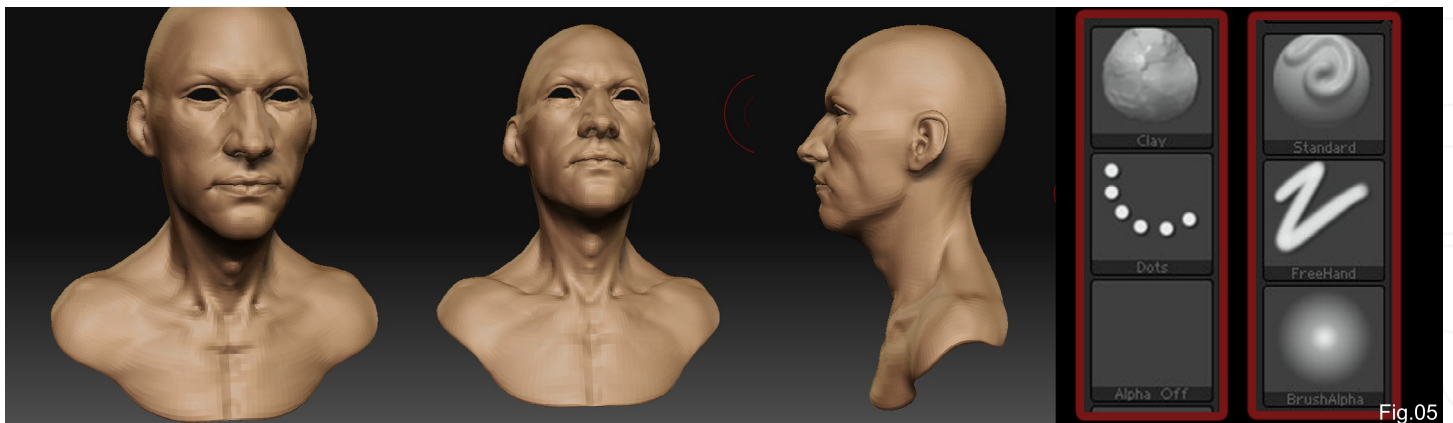


Fig.05

some parts as necessary to focus my attention on a specific area. Starting with the Clay brush around the eyes, I start to work on the muscles, and in the mouth area I define the lips and their form some more (Fig.04).

## WORKING MORE ON THE SHAPE

Here we can start to put the bones and muscles in the chest area and on the shoulders. He is a thin man, so I can see the muscles and bones in his physique. So I start by using the Clay brush to put the ribs and chest muscles in place and then move on to refine the neck's shape and muscles. I then move back to the face and, picking the Standard brush with Alpha 38, start to mark some cavities in the eyebrows. With the Clay brush I keep refining the shape of the face; here I add some marks to insinuate the muscles under the skin (Fig.05).

When all of this is finished, I can start to work on the ears. I choose the Clay brush to block the shape of the ear in, and then with the Standard brush I work on the cavities and add some more volume to the ear (Fig.06).

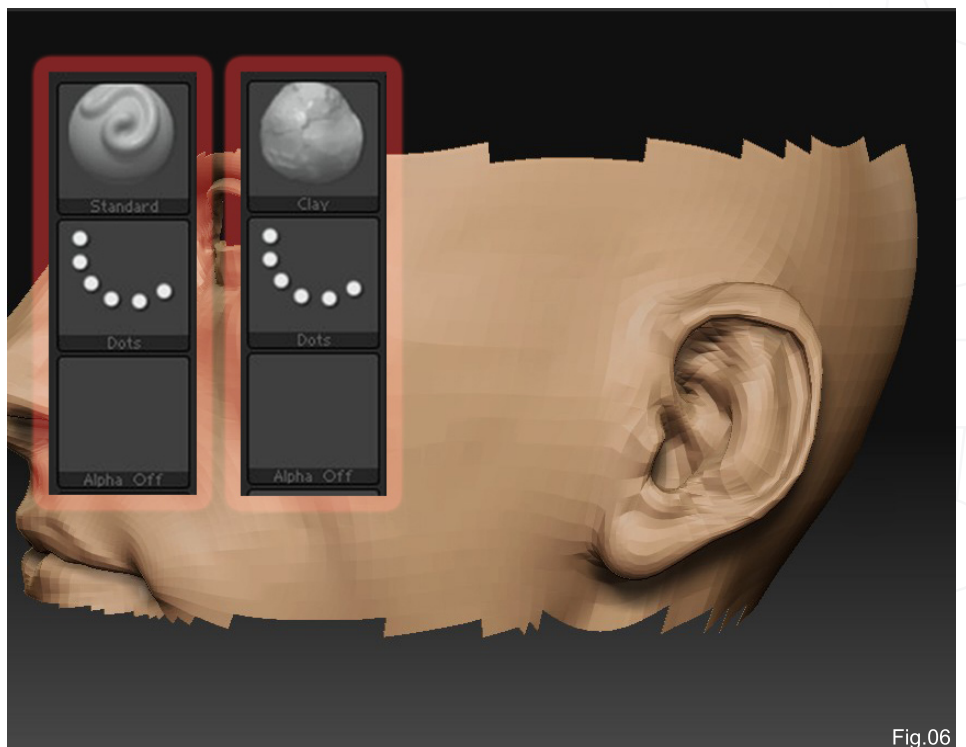


Fig.06



Fig.07



## REFINING

We can start to refine the nose now, creating a more flattened area. I use the Clay brush, only changing the ZAdd for ZSub to subtract information on the mesh. I then work more around the eyes, using the Standard brush to do some of the cavities, giving expression to his eyes. In the mouth area, I use the Standard brush with a low radius and low intensity to create some wrinkles/creases (**Fig.07**).

I continue working on nuances in his face, such as wrinkles and expression marks, using the Clay brush (**Fig.08**). In his upper body, I refine the muscles and bone forms, and in his neck I add some large wrinkles/crease lines, using the Clay brush (**Fig.09**).

## POSING & EXPRESSION

Here, before I detail all of my character, I decide to do his pose and remove his symmetry. So, using the Transpose tool, I try to find a suitable pose for my character. I prefer doing this at a low level of subdivision, because it gives me



Fig.08

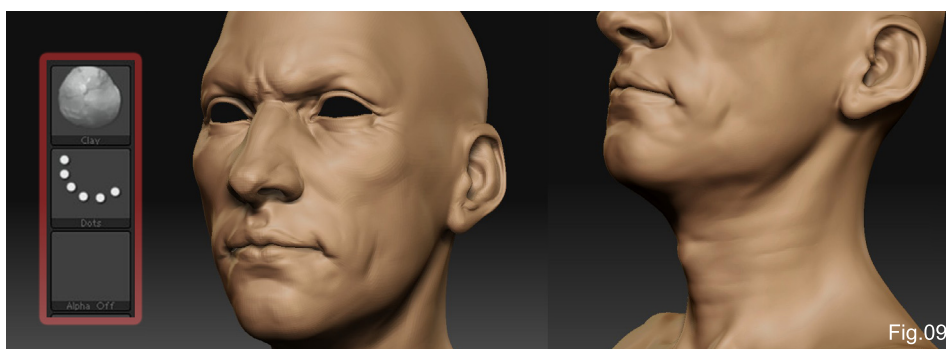


Fig.09

more control over my model. Remember also to create a layer for the pose – this is important because we can do the texturing without the pose, as it's easier to paint the textures that way.

When the pose is good, I use the Move brush to remove his symmetry and add expression to him (**Fig.10**).

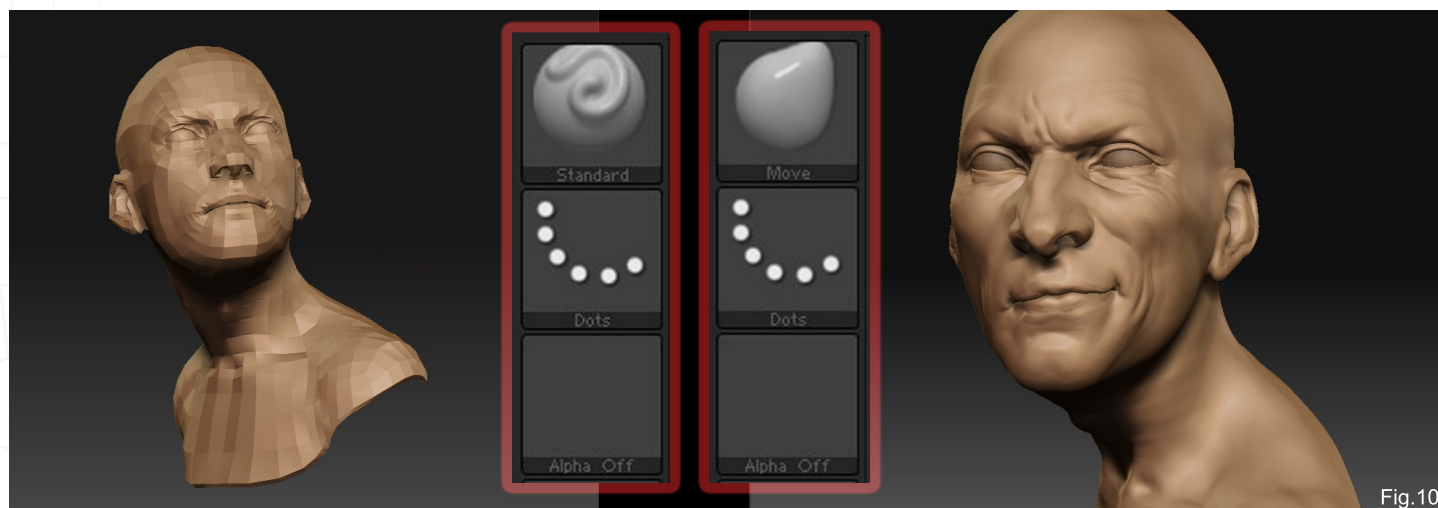


Fig.10



Fig.11

## PIERCINGS

Now I'm going to put the piercings into his skin, so I pick "rings3D" from the tool palette and import them like SubTools into my scene, fitting them to my character's face where I think they'll look most effective (**Fig.11**).

I also pick some spheres and add them into my scene as well, to simulate stud piercings (**Fig.12**). To do the stretched earlobes, I pick another ring3d and make some modifications to it, fitting it into the ear of my character. To make the hole in the stretched earlobes, I just paint a mask in the area I want to make a hole in, and hide it. It is only a fake hole, but it works well in this case (**Fig.13 & Fig.14**).



Fig.12

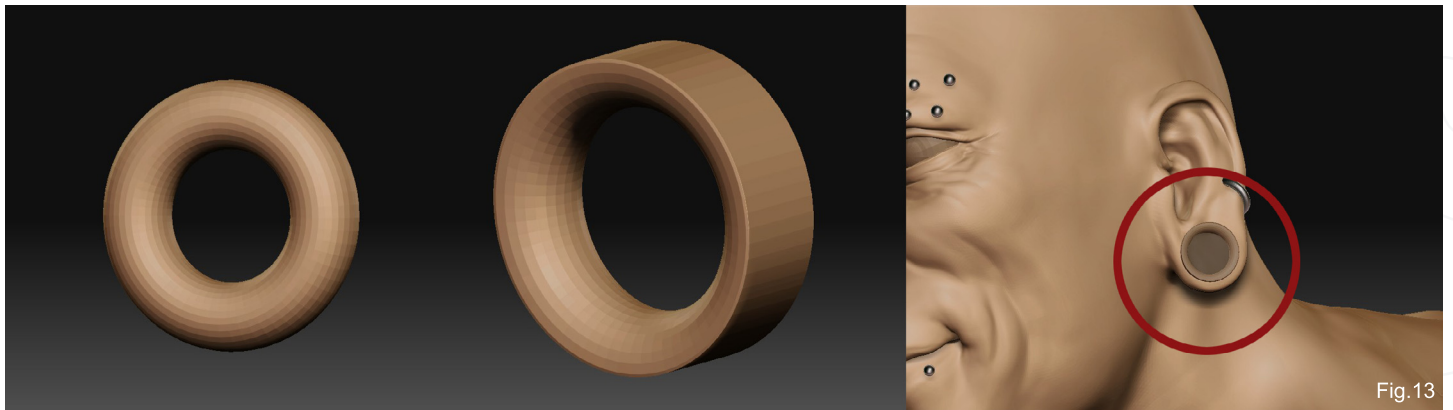


Fig.13



Fig.15

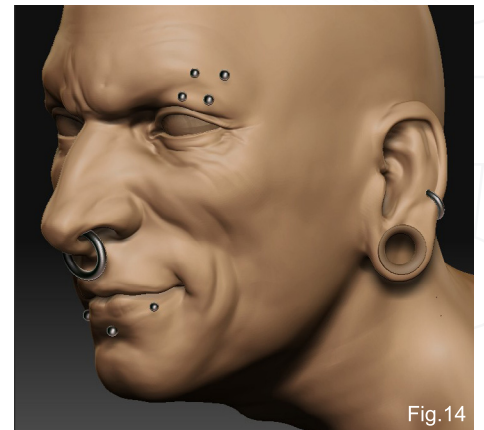


Fig.14

I now make some modifications in the skin around the piercings, to give a more natural look (**Fig.15**).

## HAIR

For the hair I decide to do a Mohican, but because I don't want to create new geometry for this, I'm going to sculpt it. To do this, it's very



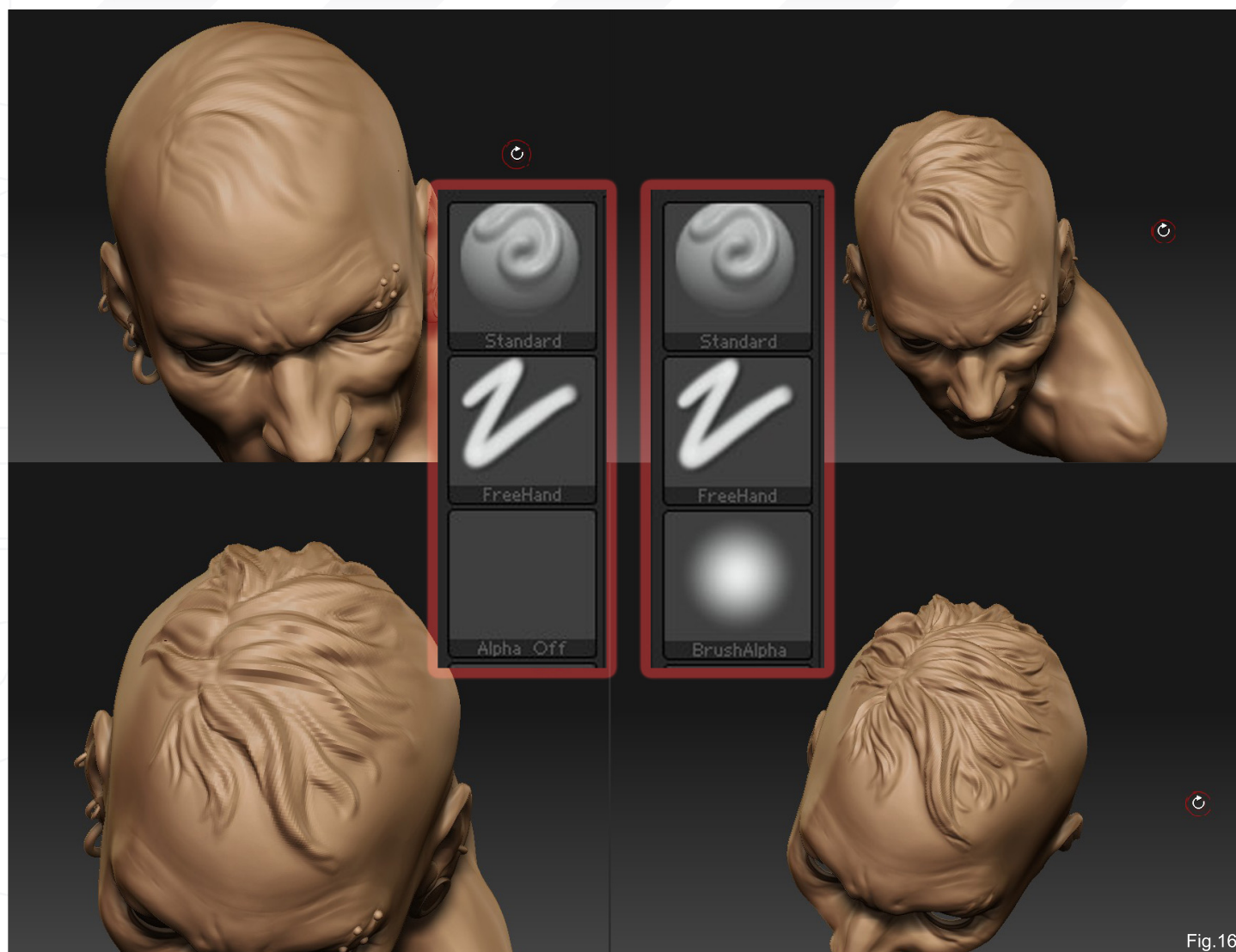


Fig.16

important to visualise the hair before starting the modelling process. So I start off by blocking the flow of the hair, using the Standard brush with a low value. It's very important to seek good movement in the hair – something organic – so always search for references.

After the blocking process, I can start to refine the hair. Using the same brush, I just change the

alpha for a very smooth one, and start to create more volume and a more wiry hair type (Fig.16).

## FINAL DETAILS

To finish the model, I select the Clay brush with a low radius and start to create some imperfections in the skin, one by one. I then change the stroke to spray and select a small alpha, like 44 for example, and paint some holes

in the model to simulate some large pores in the area where his facial hair would grow. I then select the Standard brush, with Alpha 38, and start painting some little wrinkles in the mouth area (Fig.17).

Here is the final model (Model.01).

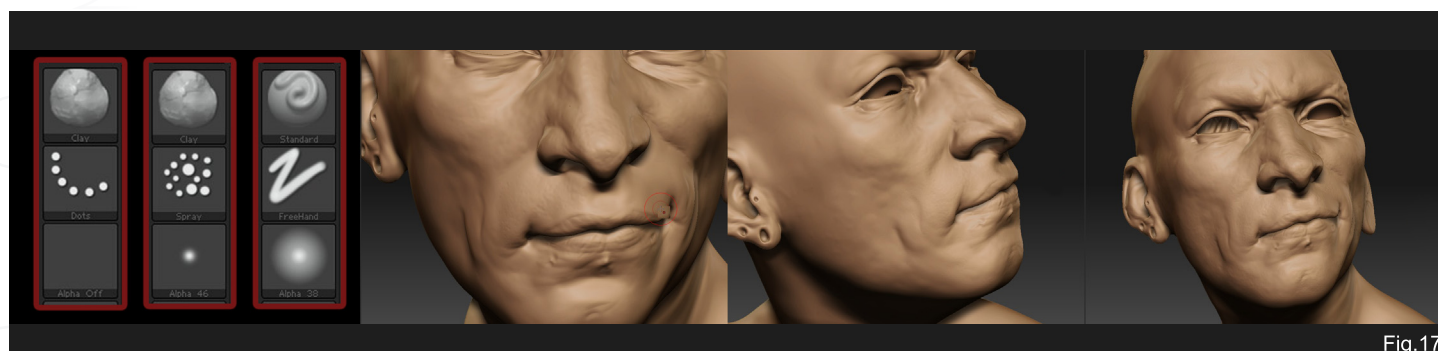


Fig.17









Fig.18

## TEXTURING

To start the texturing process, I turn off the layer with the pose for my model and go back to its original state. I select a white shader and turn off the perspective to avoid any distortions in the model. I then create a new texture in the texture palette.

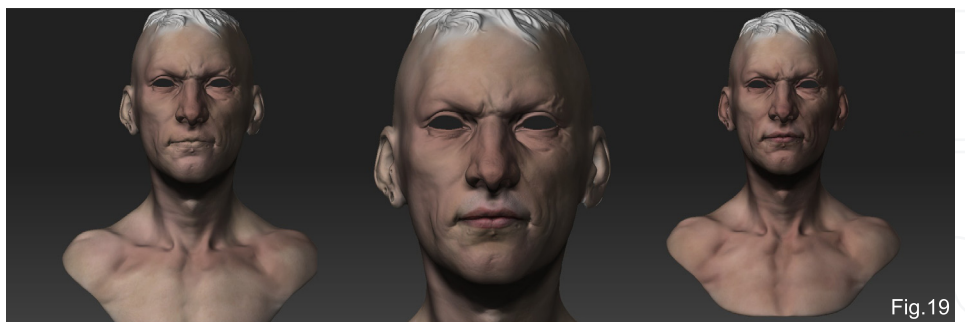


Fig.19



Fig.20

Once more, I want to use the Projection Master to project images with planes. So I press G to start the projection master, select the plane3D, pick a skin photograph and then select an alpha with smooth borders. I then start to block the basic skin colour in, projecting many skin pictures onto the model to achieve the desired effect (Fig.18).

When my base colour is looking good, I can project the lips and turn on the Edit mode to adjust the lip picture onto my model, just like using the Liquify tool in Photoshop. I then start to apply different skin tones onto the model, to give a more realistic look, remembering that there is blood running below the skin. I only paint the cavities with a red colour – this is a very useful technique to help me in faking a Sub Surface Scattering effect in the final render (Fig.19).

With the overall colour looking good, I search for some tattoos to project onto my model. After finding some cool pictures, I open them up in Photoshop and cut out the silhouettes to create alphas. In ZBrush, I select a plane3D; in the texture I select the tattoo photo and in the alpha I select the alpha I just created in Photoshop. Then it's just a matter of projecting the tattoo onto the model and editing where necessary (Fig.20).

Here I create some freckles and moles with a simple brush, using the drag option on the stroke (Fig.21).

To paint the hair, I change my texture to poly paint. For this I certify having a large amount of polygons – this is important because the colour



information will be transferred to the polys. I then open the palette, go to Tool > Texture, and select Colourise. I press Txr>Col (texture to colour). Now my polys have the same information that I had before in my texture map.

I can start to paint the hair now using the Standard brush with a brow colour – this is the base colour. I then select a dark brow colour and paint the dark areas of the hair, like the roots. And to finish, I change my alpha to a small one, like 35, and select a light colour to paint the brightness of my hair (**Fig.22**).

For the eyes, I use the same texture as I used before in a previous tutorial, only this time I paint in some new veins using the Standard brush.

For the highlights, I change the shadow length to 500, the aperture to 110, rays to 220, and I turn on ZMode to achieve a look similar to a GI render. I decrease the value of my ambient to 1, and turn on the fog in the render palette.

For the shader, I pick the TriShader in the shader palette and mix it with a free skin shader that I found in the ZBrush central MatCap library. For the eye, I use the toy shader in the shader palette. To finish things off, I make some final colour corrections in Photoshop, and here is the final result (**Final.01**).

I hope you've enjoyed this tutorial - see you again next chapter for the creation of a beaten-up character.



Fig.21



Fig.22



## NOTE FROM THE EDITOR:

Rafael has kindly provided us with movie footage to show the process of the creation of his extreme pierced and tattooed character, so grab yourself a cup of tea, sit back, and relax with the ZBrush sculpting and texturing skills of 3DCreative's Master, Rafael Ghencev. Enjoy this chapter's tutorial and happy ZBrushing!

## RAFAEL GHENCEV

For more from this artist visit:

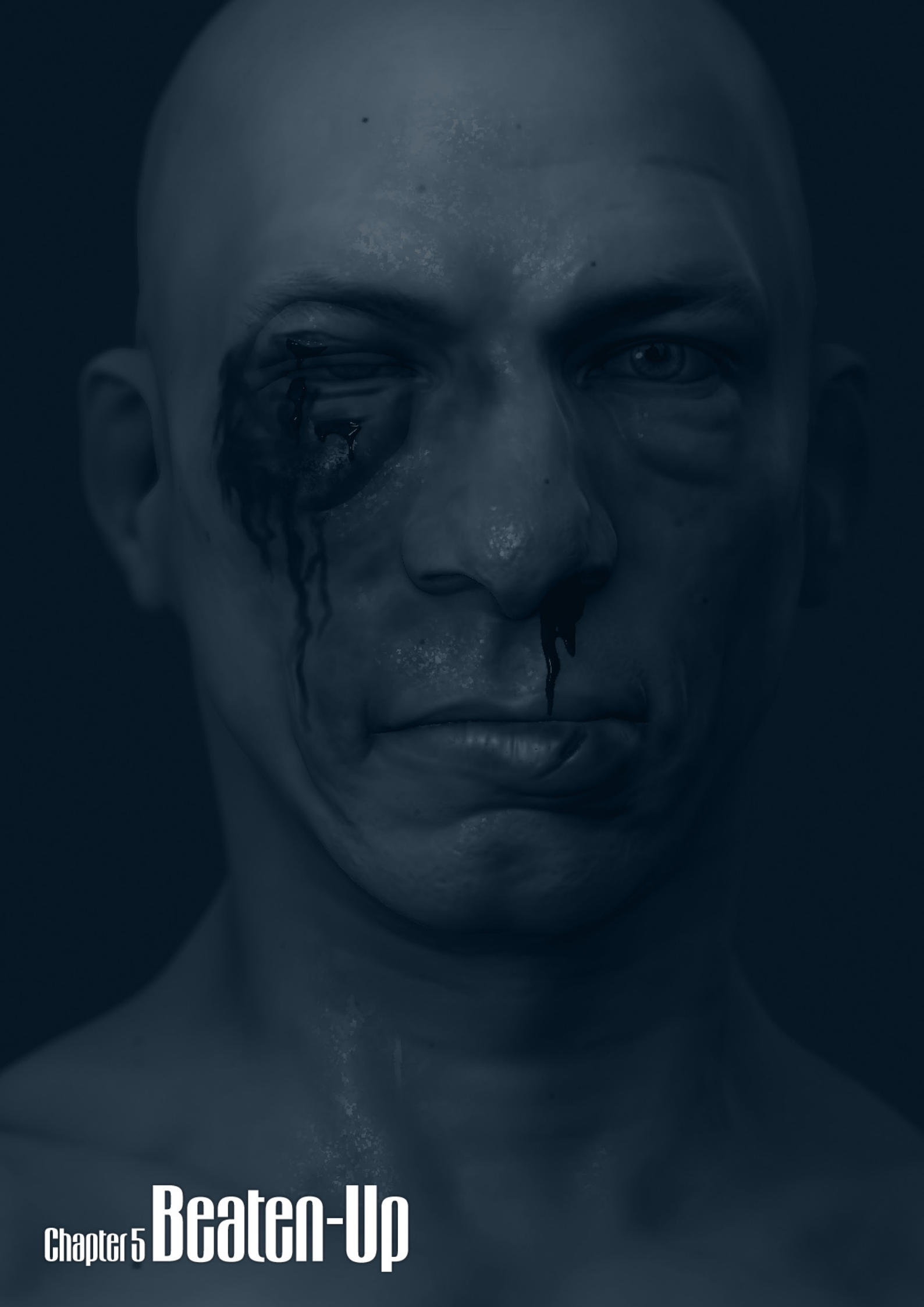
<http://www.rafestuff.blogspot.com/>

Or contact:

[rghencev@yahoo.com](mailto:rghencev@yahoo.com)







Chapter 5 **Beaten-Up**

# Beaten-Up

CREATED IN:

ZBrush

## CONCEPT

This chapter I've been asked to model and texture a "beaten-up" character in ZBrush. I decided to create a boxer with some injuries. Before starting the modelling process, I did a little research about typical fighting injuries, and then later did some more research to get some references for the fighter too. With the concept starting to mature, I began the modelling process.

## SCULPTING THE BASIC SHAPE

The first thing I did was to play with the Move brush to find a better shape for my character. It's very important to concentrate on this part of the process. A bad shape means a bad model. The details are not so important here; a character with a beautiful shape and few details is much better than a bad shape with lots of wrinkles and pores. So take your time at this part of the process. Afterwards, with a Standard brush, I'll start to add more volume and information to the shape, but right now I'm just working on the basic shape (Fig.01).

With the basic shape ready, I pick the Clay brush and start to add the bone structure and

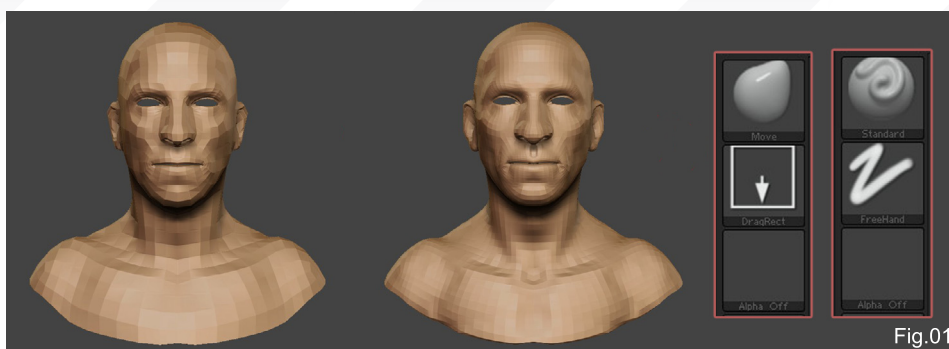


Fig.01

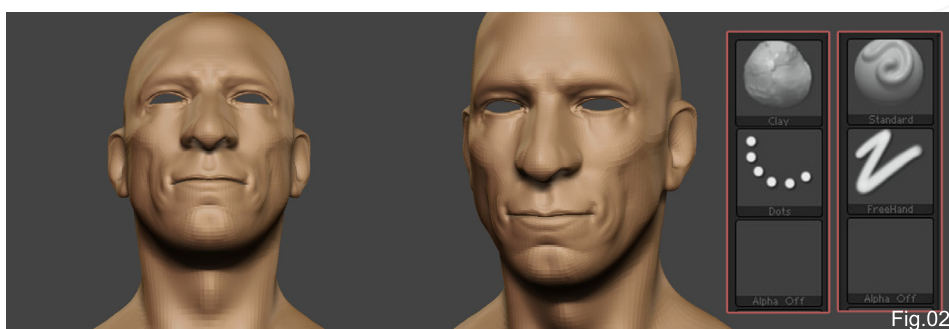


Fig.02

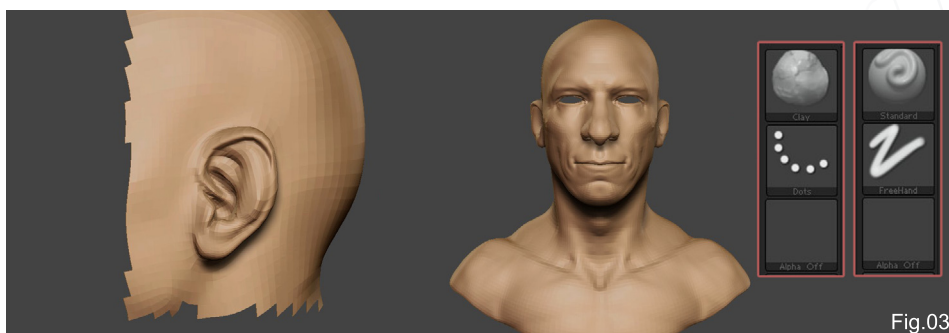


Fig.03

muscle volume. Here I can block some big wrinkles using the Clay and Standard brushes. With the same brushes I then start to refine the shape of the nose and the mouth. I add in the sternocleidomastoid muscle in his neck here as well (Fig.02).

Next, I isolate the ear in order to start work on it. I basically use a Standard brush on the ear (Fig.03); with the Clay brush I'll be blocking his

body muscles in, like the chest and shoulder muscles. He's a boxer, remember, so his muscles will be strongest in the shoulder region, like the trapezius and deltoids.

## REFINING THE SHAPE AND ADDING DETAILS

With the shape looking good I can work more on the specific areas, like the eyes, nose, mouth and chin. With the Clay brush I start to refine all



Fig.04



of these parts, giving a little more subtle detail to his face. I can also refine the shape of the ear here, too (Fig.04).

I then pick the Standard brush with alpha 38 and start to mark some wrinkles, like the eyebrow wrinkles, neck, etc. It's still only marks at this stage though; we're not going into all those finer little details yet.

## FINAL DETAILS

Here the shape is finished and I can start to add detail to my character, so I continue now with the Standard brush and refine the wrinkles, working details into his mouth, eyes and neck areas. For the body I also add some more detail to his muscles and some of the folds of skin between the chest and arms, to achieve a more natural look. For this I use the Inflat brush to approach the normals and to make it look like the skin is pressed against more skin (Fig.05).

Now it's time to add more detail to his face. I decide to make his face with lots of little injuries and marks, so I choose the Clay brush with a low radius and start to draw lots of irregularities. Then I change the stroke to spray, pick alpha 38 and add some pores to his face (Fig.06).

## ASYMMETRY AND INJURIES

It's time now to put the injuries onto his face. So I turn off the symmetry here and start with the Move brush to take away his symmetry. I twist



Fig.05

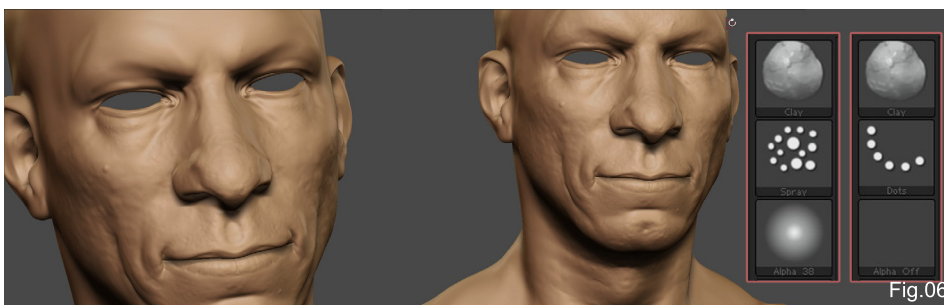


Fig.06

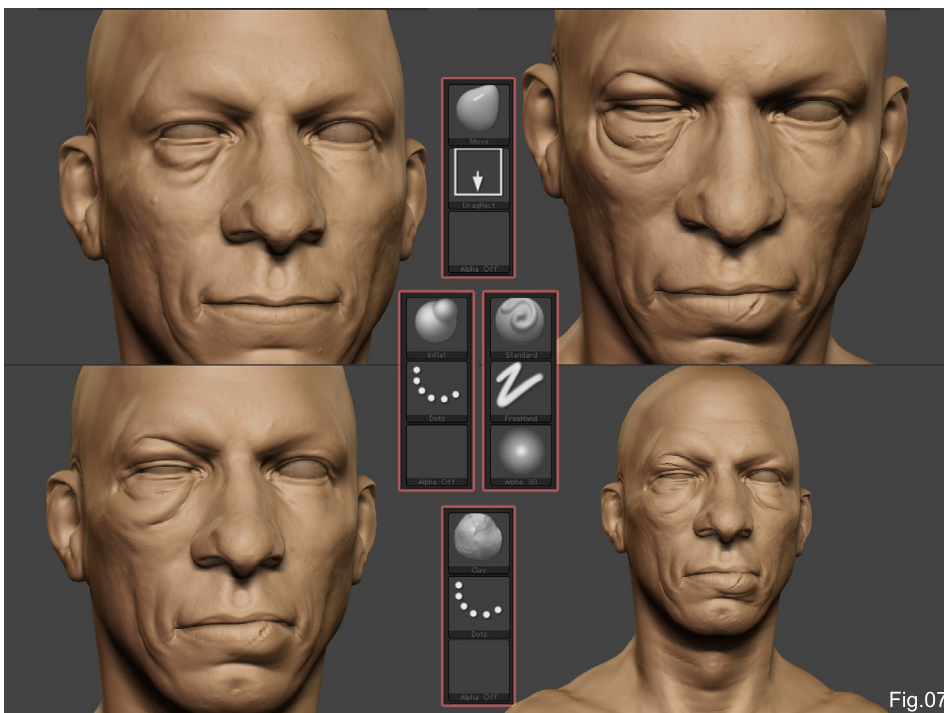


Fig.07

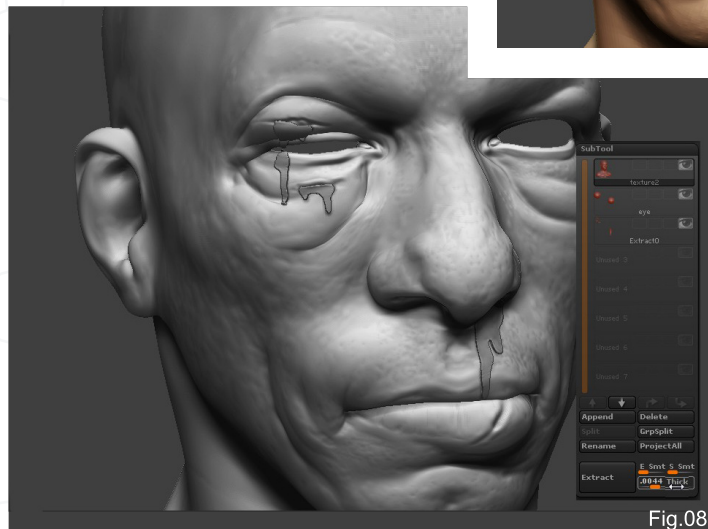
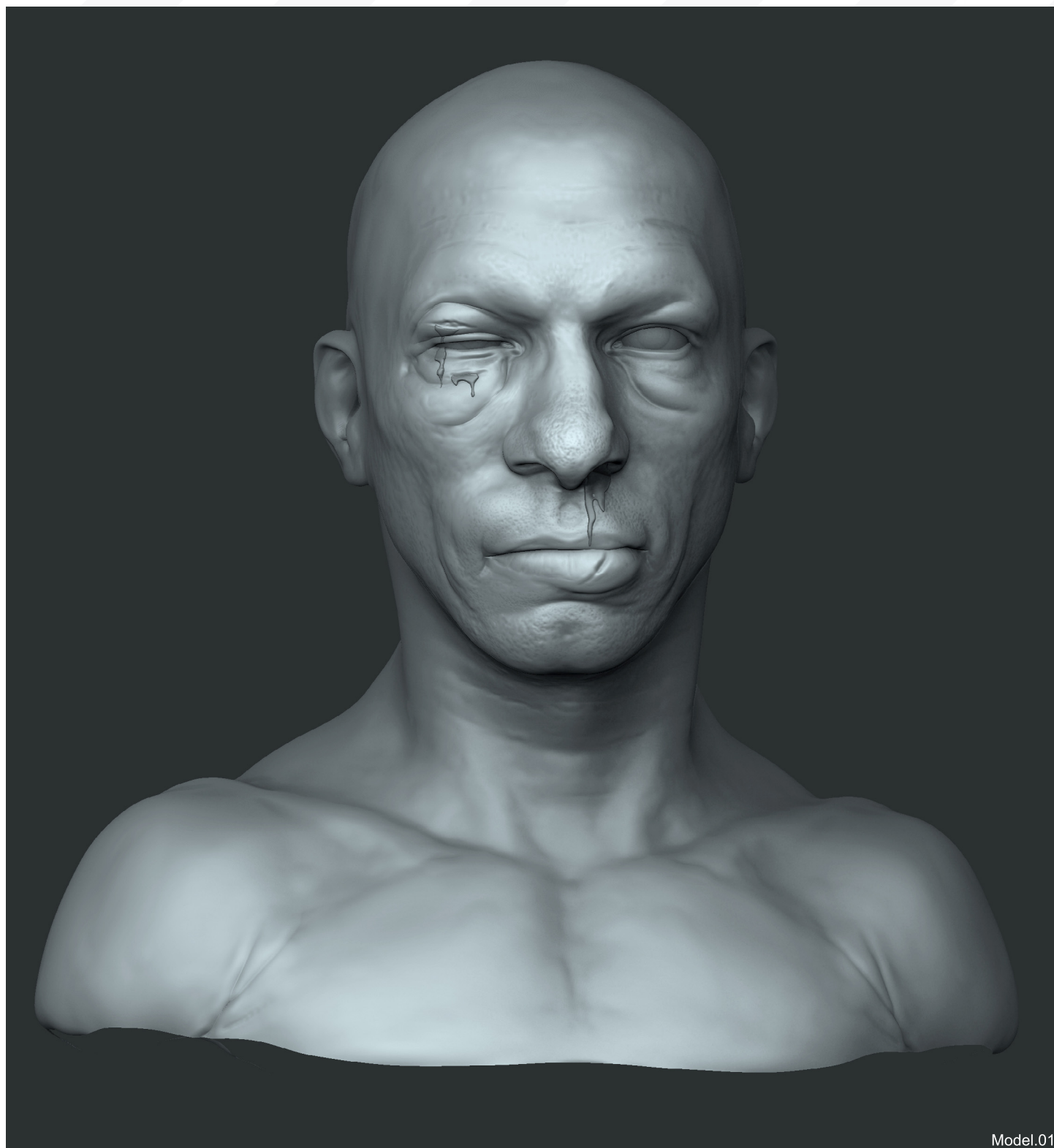


Fig.08

his nose a little and his mouth, too. Then I start with the Clay brush and the Standard brush to add the swelling around his eyes and his mouth, as if he's taken a real beating. Then, with the Inflat brush, I dilate these areas to make it look like there's a lot of pressure behind the skin (Fig.07).

## THE BLOOD

Here I'll show you a great tip about how to create drops of blood! Pressing the Control button, I paint some areas like little blood drops. Then, in the SubTool palette, I decrease the thickness value and press the Extract button. The selection will create a new tool with the same shape of this selection. You can then model in the new tools to give a more natural look (Fig.08).



Model.01

Finally, here is the result of the sculpting process (**Model.01**).

## TEXTURING

At this point I decide not to lose time by starting from a new texture and so I select a base texture that I painted for the last character, and

change it to suit my needs for this character piece. I pick a simple brush in the Projection Master and start to paint some colour variations onto his swelling eyes. I then pick a purple colour and start painting his injuries. I find a dark green colour to paint around his swellings ideal to show the bruising.

At the top and bottom of his right eye, I paint some cuts in using a red colour, as if he's received lots of punches (**Fig.09**). At the bottom of his eye I paint some blood dripping down his face (**Fig.10**). For the eyes, I project them and paint many different shades of red around the pupil (**Fig.11**).



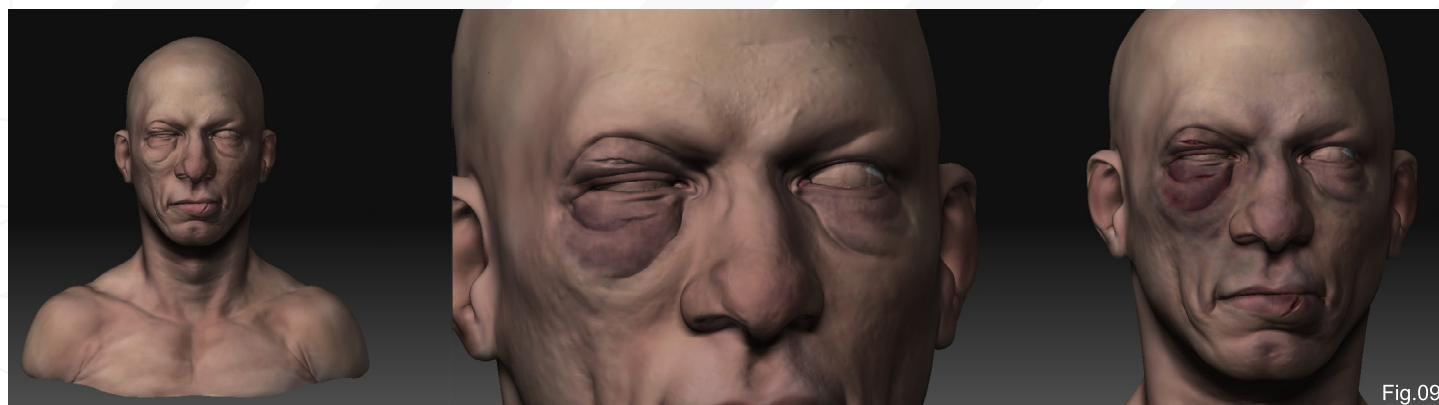


Fig.09

For the shader, I once again pick a TriShader from the Shaders palette and blend it with a free skin shader that you can find in the ZBrush central MatCap library. For the eye and blood drops, I use the toy shader.

For the lighting setup, I increase the rays to 230, the aperture to 102, and shadow length to 300. I turn on the ZMode to fake GI. I turn the fog on in the render palette as well, and make some tests to find the best result. And here is the final image (**Final.01**) – hope you like it, see you next chapter!

## NOTE FROM THE EDITOR

Rafael has kindly provided us with movie footage to support this tutorial on the creation of a beaten-up character in ZBrush. You can



Fig.10



Fig.11

download the movies via the Free Movies icon, and enjoy this master at work!

**Please note:** There are 14 movies in total and so they may take some time to download, but we're sure they will help you to understand Rafael's working process in ZBrush. Enjoy!

## RAFAEL GHENCEV

For more from this artist visit:

<http://www.rafestuff.blogspot.com/>

Or contact:

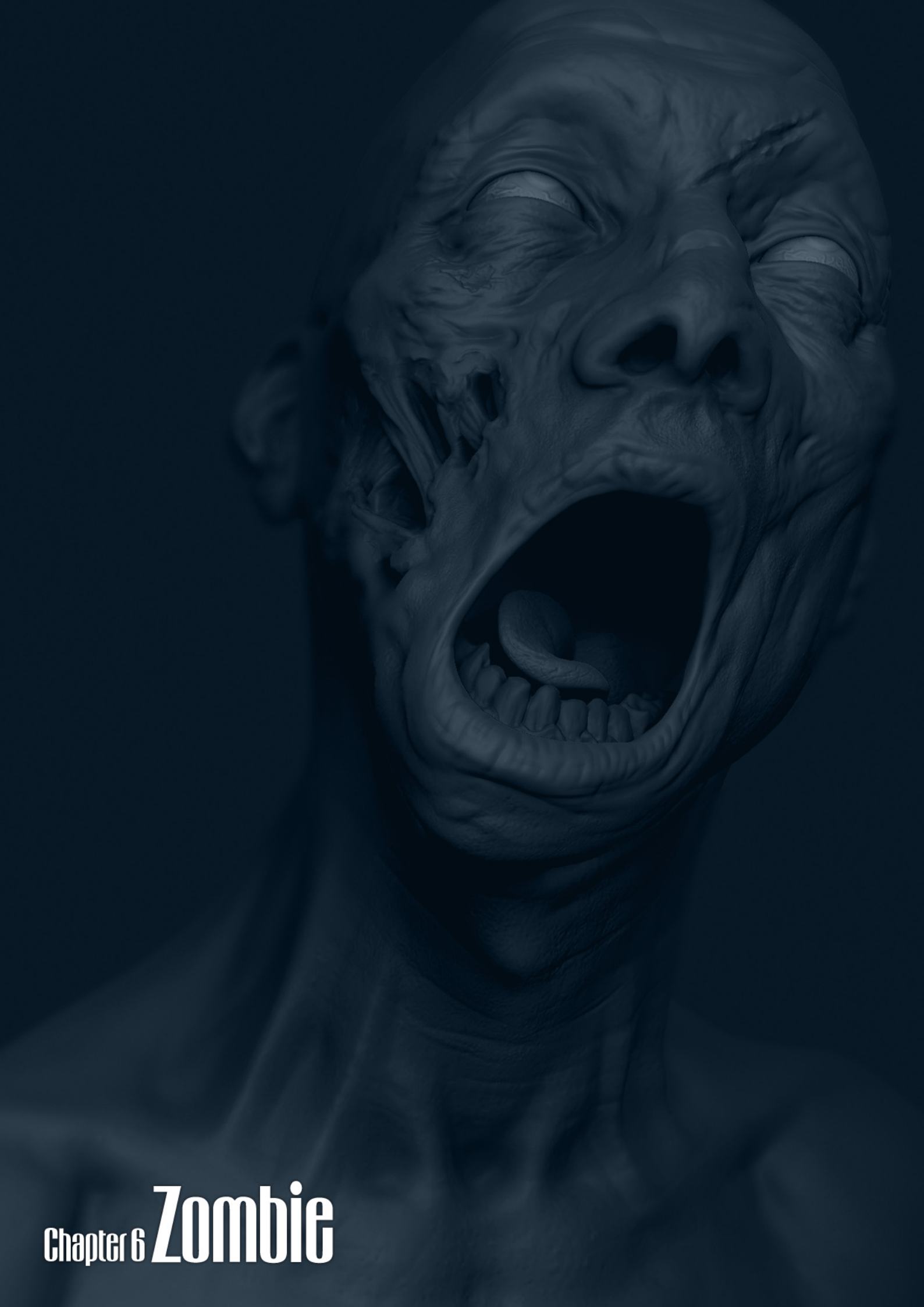
[rghencev@yahoo.com](mailto:rghencev@yahoo.com)











Chapter 6 **Zombie**

# Zombie

## CREATED IN:

ZBrush

## NOTE FROM THE EDITOR:

Please note that because this character is much more involved in the sculpting process this chapter, Rafael will just be discussing the sculpting work and this chapter will not detail any texturing in ZBrush. Please check out our previous chapters by Rafael Ghencev for information on how to texture your models in ZBrush if you feel at the end of this chapter you'd like to continue and texture your model.

## CONCEPT

This chapter I'm back to sculpt a zombie character for you. As usual, before starting any sculpting work, I search for references on the Internet. After some time researching the subject, I came across a zombie image which inspired me to create the model you see here in this article.

## BASIC SHAPE

The first thing I do is extrude the polygons inside his mouth, because I've decided to go for an open mouthed character this time around. To extrude the mouth I open the base mesh in

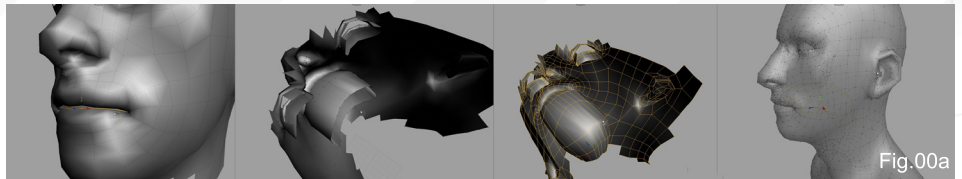


Fig.00a

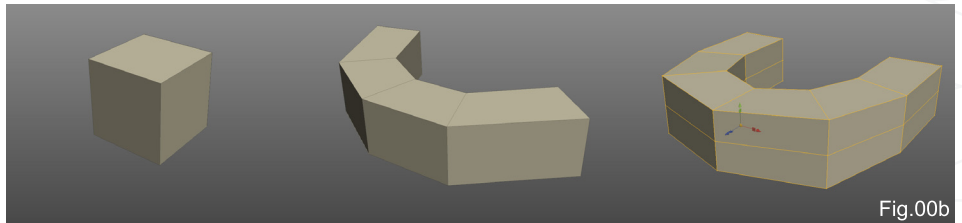


Fig.00b

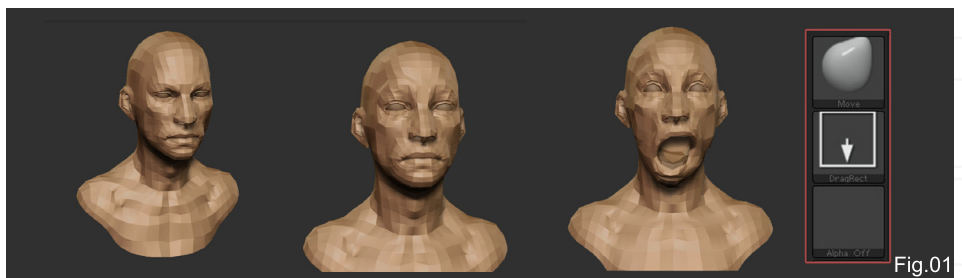


Fig.01

another 3D package (in my case I use Silo for this) and use the Extrude tool in the edges of his mouth (**Fig.00a**). I then export the base mesh back to ZBrush to continue work.

I also create a simple mesh for the teeth and his tongue (**Fig.00b**). To create this I simply created a box in another 3D package and extruded it a few times, pushing the extrusions backwards to create a horseshoe shape. I then exported the base mesh to ZBrush. Using the Move brush, I play around with the model, searching for a good look and shape for my zombie character.

For this character I'm specifically choosing not to work with symmetry, so I'm modelling

each side of his face individually. To change his expression I use the Transpose function to open up his mouth. With the Move brush I can then make some necessary corrections to the expression (**Fig.01**).

With a good shape established, I choose to add one level of subdivision and continue to develop the basic shape, starting to sculpt in his bone structure and facial muscles with the Standard brush.

He's a very thin character; he's suffered a lot and so his face must show agony. But remember: at this stage we're just working on

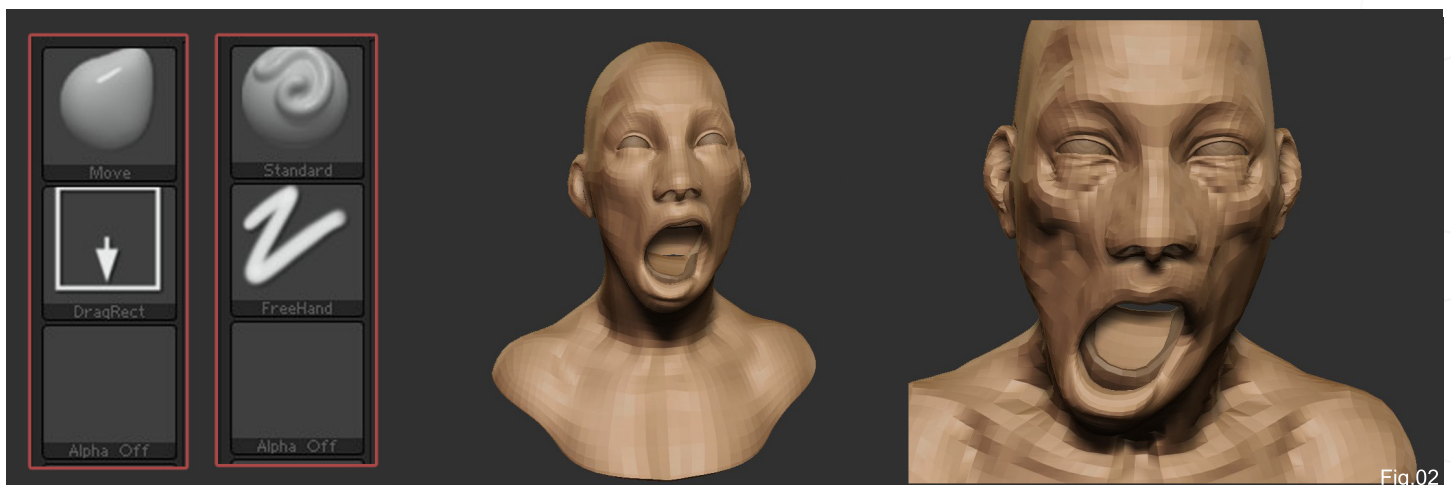


Fig.02



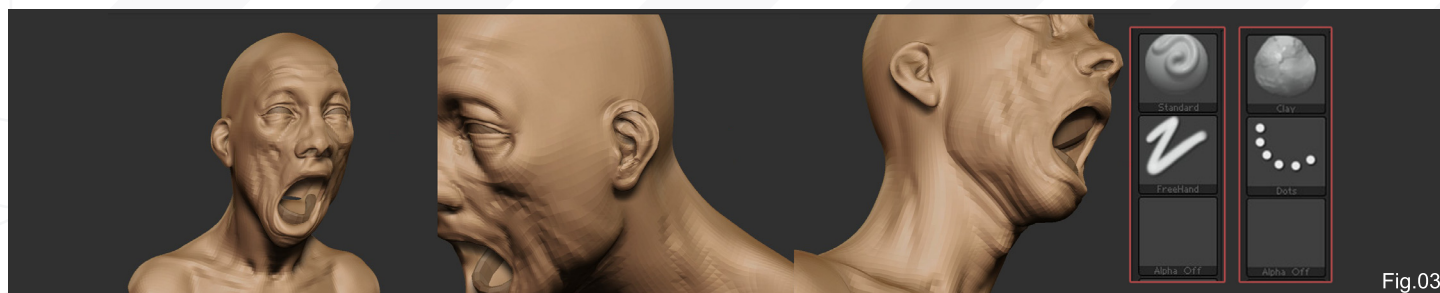


Fig.03

the basic shape only – details are not necessary yet. The objective, as always, is to establish good shape and structure (Fig.02).

## REFINING THE SHAPE & ADDING MAJOR FACIAL LINES

Once I'm happy with the shape I've defined, I select the Clay brush and start refining the shape of his bones and muscles. He's very thin, so it's really important here to put all the muscles in the right places. For this, it is of course wise to work with references.

With the Standard brush I sculpt some skin folds below his chin; it's the expression on his face that brings about this kind of facial deformation. I also add some large wrinkles/creases to his forehead to increase the expression in his face (Fig.03).

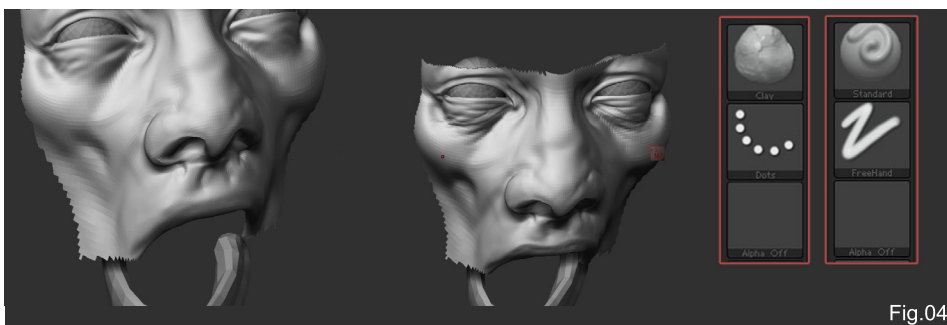


Fig.04



Fig.05



Fig.06

Now it's time to refine the individual shapes, like the nose and eyes, and add further wrinkles and facial lines. Here I use the Clay brush to improve the nose shape, later selecting the Standard brush to create wrinkles around his eyes (Fig.04).

Here it's very important to refine the shape of the body as well, to keep things in good balance. So, using the Clay brush, I sculpt the breastbone and the top of his rib cage. On his back I go for adding some distinction to his spine (Fig.05).

## MUSCLES, ROTTING SKIN, TEETH & TONGUE

Now it's time to detail the muscles in his face; for this I use the Clay brush to add volume and the Standard brush with Alpha 28 to add some

wrinkles and cavities. I decide to go on and improve his suffering further by rotting part of his skin. For this I make a selection by pressing Ctrl and painting a mask; using the Clay brush I sculpt muscles that appear through the rotting flesh (**Fig.06**).

For the teeth I select the Standard brush and start to draw the teeth one by one. With the same brush, but now with Alpha 38, I start to add some cavities and refine the divisions between each tooth (**Fig.07**).

For the tongue I use the Transpose function to add good movement to it, and then select the Standard brush to detail the shape of the tongue. To give it some texture I select the Clay Tubes brush and modify the strokes to Color Spray. To finish up the tongue, I use the Standard brush with Alpha 38 to add some fine wrinkles (**Fig.08**).

## FINAL DETAILS

Using the Standard brush with Alpha 38, I refine the skin around the muscles. I do the same for the wrinkles inside his mouth, and on his neck and brow. It's always really important to work with references, especially

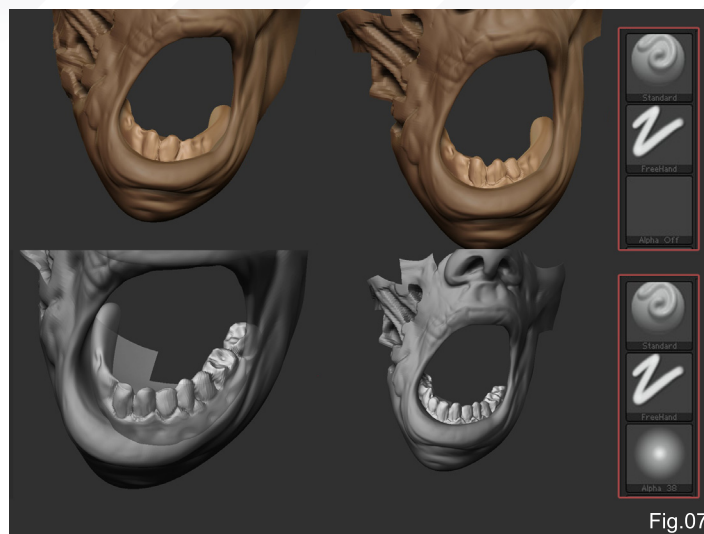


Fig.07



Fig.08



Fig.09

for this kind of detailing, because wrinkles have to flow in the right direction for each part of the face in order to achieve believable results.

I select the Clay brush and start to refine the transition between the skin and the muscles in his face, taking care to aim for a natural look to his rotten skin (**Fig.09**). Selecting the Clay brush again, I sculpt some skin imperfections and add extra detail to his face. Using the Clay brush with Spray and Alpha 38, I create the little pores and holes in his face and neck; changing the brush to Standard I then add extra wrinkles around his eyes and neck (**Fig.10**).

Here is the finished model – I hope you like it (**Fig.11**). I'll be back again with the Werewolf chapter (April Issue #044). See you then!



Fig.10



## NOTE FROM THE EDITOR:

Rafael is taking a break from the series next chapter, so we're welcoming Joseph Harford to the ZBrush Character Creation Series instead and he's going to create a vampire character for us. Rafael will be back in April for the creation of a werewolf, and to complete the series in May 2009, Rafael Grassetti will sculpt and texture Frankenstein's Monster for us. So stay tuned!

## FREE MOVIES:

Rafael has provided us with 13 movies this chapter that track the process of his zombie character creation. Please be aware of the large file size when downloading the movies that accompany this chapter – simply click on the “Free Movies” icon, download and enjoy!

## RAFAEL GHENCEV

For more from this artist visit:

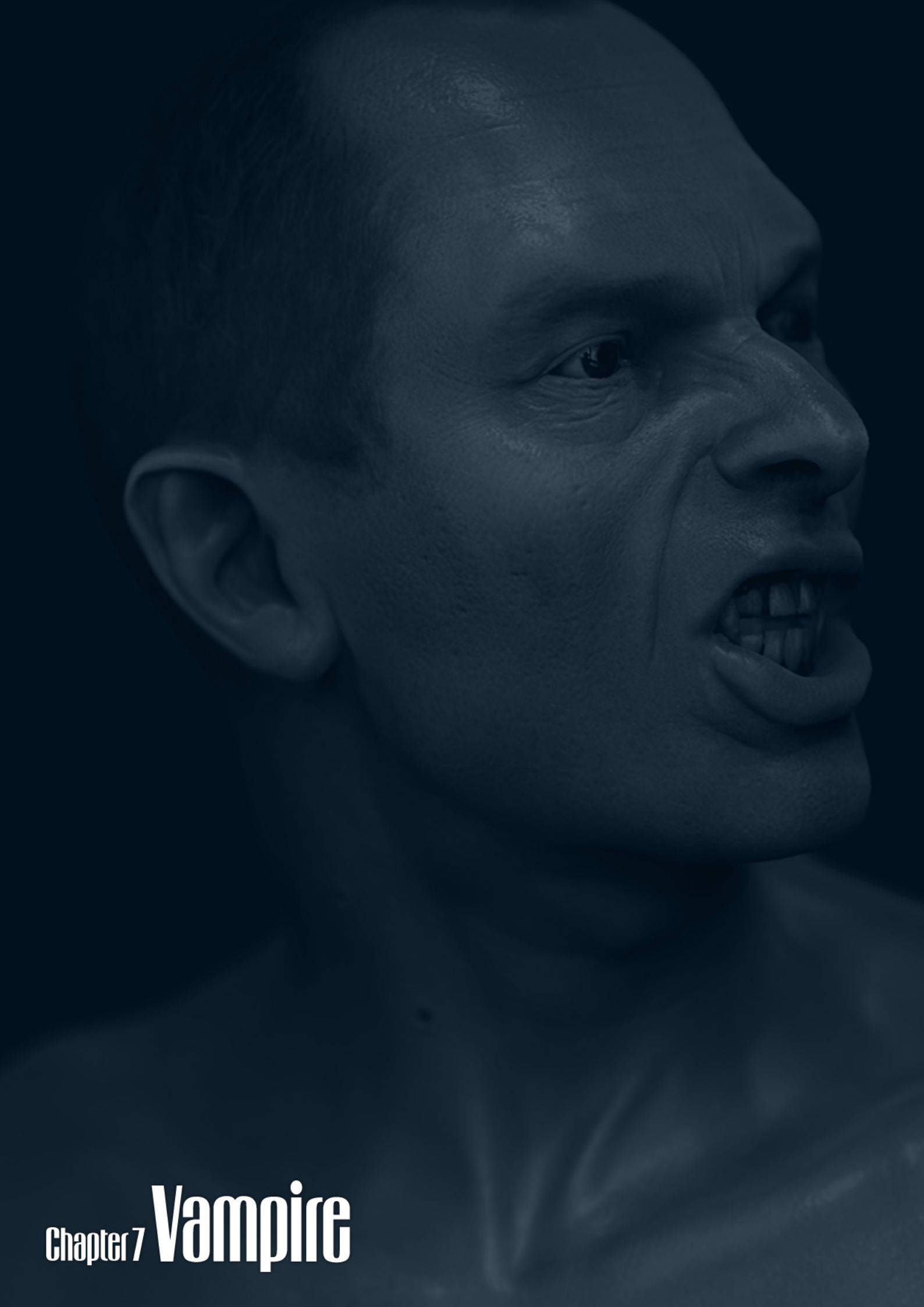
<http://www.rafestuff.blogspot.com>

Or contact:

[rghencev@yahoo.com](mailto:rghencev@yahoo.com)







Chapter 7 **Vampire**



# Vampire

## CREATED IN:

ZBrush

What defines a vampire: the long cloak, the slicked back hair, the blood dripping from their teeth? The truth is that it's very hard to define characteristics of what makes a vampire, from a character point of view. The bust of a vampire must capture the core elements of what I believe a vampire should be – frightening, threatening and fierce.

## REFERENCES

I start out searching the web and books for references. Something I find very useful is to put together a visual ideas sheet, with references on the appropriate themes. This sheet makes good inspiration and provokes ideas and in this case, I fill it with vampires, from historic ones up to today's modern re-interpretations. I want to stay clear of the sexy female vampires, or the twilight hero vamps, and look towards a more classical approach: a dominant, mid-40s male, strong in build and character. For the pose, I want something "in the moment", capturing an expression for the viewer to piece together.

After finding the references and building up bit of back story, I have the character firmly in mind. I can visualise the final image and so now is the



Fig.00



Fig.01



Fig.02

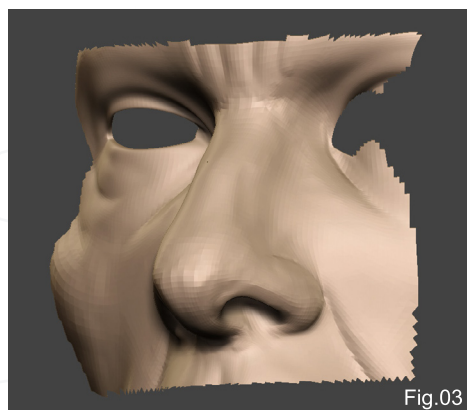


Fig.03

time to search for references to help me achieve it. This means pose references, anatomical diagrams and texture references. Usually I will have these on my second monitor, or printed out and stuck on the walls in front of me (Fig.00).

Among these are pictures of myself in the pose I want my character to strike. The best anatomical reference you have is the one sitting and reading this now, and I strongly advise you to take your own reference pictures, and study

yourself in the mirror and in photographs. No matter what the build of your character, your own body can give you a wealth of information. You can simply extrapolate from there with additional material for ultra thin or muscular characters.

## SCULPTING

I start with the base mesh from 3DTotal, created by Rafael Ghencev (as used for all previous chapters of this series) – a well modelled

bust with edge loops following the flow of the muscles in the face (**Fig.01**). It provides good deformation for animation, but more importantly here, it provides a free and easy base to sculpt upon. Equal quad sizes and good topology allows no pinching to occur and divisions to be added uniformly across the mesh.

I start by adjusting the global proportions of the head to match the references I'm using (**Fig.02**). Bearing in mind the structure of the skull itself, my characters always start out a good deal thinner than they will end up. I block out the main forms of the head next, placing the cheekbones, nasolabial fold and the sternocleidomastoid muscle of the neck. The collar bone is an important one to place as well, as it defines the bottom area of the neck and gives the character a solid and properly-constructed appearance. Continuing blocking out the main facial masses, I add volume to the masseter muscle, which runs from the mandible (jawbone) into the anterior two-thirds of the cheekbone.



Fig.04



Fig.05



Fig.06

For the bulk of the sculpting, I use the Clay brush. I find it a fantastic tool to add geometry in a traditional fashion. Coming from a traditional art background, I love to combine real material techniques with the speed, efficiency and all the other benefits that come with working digitally.

I work in a layered manner, and seldom use anything other than the Clay and Move brushes for these initial stages. Later I find the Standard brush, tweaked with a 70+ brush mod setting, invaluable for adding wrinkles and creases in the model.

After the main masses are complete, I go over the face, refining and adding skin, folds and the large wrinkles (**Fig.03 – Fig.05**). I work on the eye shapes, making sure they sit around an eyeball and fall in the correct manner. Eyes are extremely important and every aspect of the



eyes, not just the shader, will be scrutinised for accuracy. The lacrimal caruncle is one of the key parts of making a realistic eye model and is often neglected.

To give depth and structure to the ear, I mask off the section at the top and invert the mask (Ctrl + left-click outside the model), smooth the mask (Ctrl + left-click on the model), and then using the Move tool I pull down the geometry to hang over (**Fig.06**). This is a great trick to use on wrinkles and eye creases, as it gives weight to the geometry. I mix this up with using a brush with gravity turned on to achieve the same effect.

When all the main anatomy is in place, it's time to pose the model. It's vitally important to now turn on "Posable Symmetry", which you can find in the Transform menu (**Fig.07**). This will allow you to keep modelling symmetrically, even after posing your character.

I use a mixture of masking and the Transpose, Move and Rotate tools now to position the character in the correct pose (**Fig.08**). I'm not worrying too much about the problems that arise with the anatomy of the neck, just that the pose is correct and the stretching is minimal. Once everything is in its right place, I sculpt with the clay and modified Standard brushes to bring back the realism and accuracy into the pose, concentrating on the neck twist and how the muscles will react to the head turn.

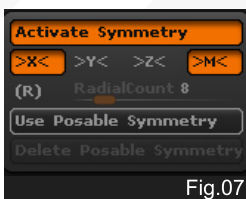


Fig.07



Fig.08

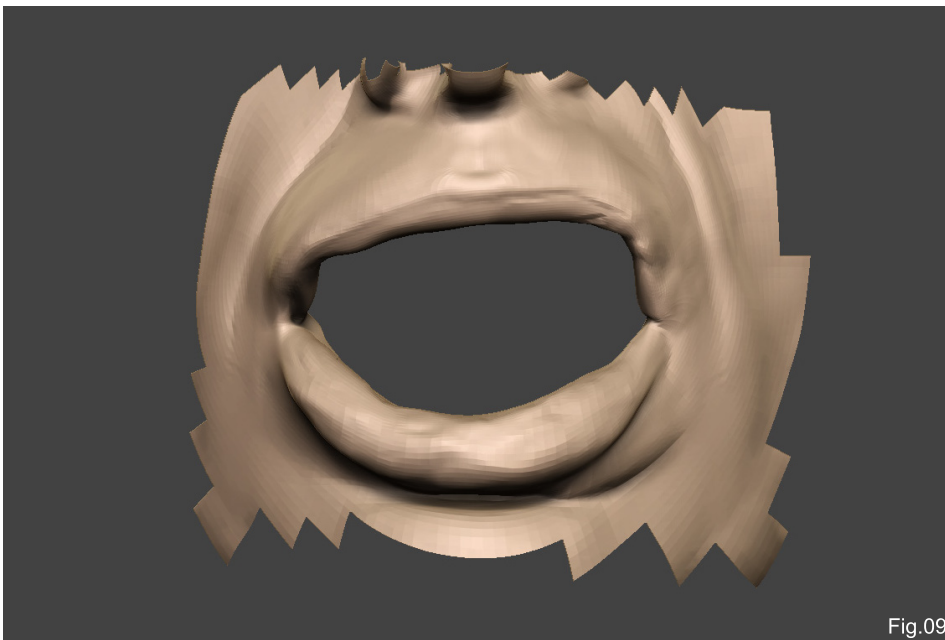


Fig.09



Fig.10

The mouth will play a big part in the image by housing the terrifying fangs, so while pulling a face in the mirror and using the reference images, I sculpt the lips (**Fig.09**), using the Move, Clay and Inflate brushes. It's important here to remember how the jaw moves the lower lips down, and how the teeth and gums will shape the way the lips sit over them.

And with that said, it's time to move onto creating the teeth now. I create a new ZSphere and using symmetry I add three new spheres on either side (**Fig.10**). Using the Move tool with a very low ZIntensity I can position these spheres in a gum-like arc shape. Clicking "Preview" under Tool > Adaptive Skin will show us how the model will look. The default settings

work and I go ahead and click Make Adaptive Skin (Fig.11). This creates a new model which should appear in the tool display; if you switch to it, it's now editable, just as our main model is.



Fig.11

Switching back to my main model, I hit the Subtools > Append button, and append in my new gum tool. I do this twice and position each gum correctly (Fig.12).



Fig.12

The teeth are created in the same way, only utilising two ZSpheres positioned vertically. Each tooth is subsequently shaped, appended and positioned, with the surrounding gum area sculpted to surround them (Fig.13 – Fig.18).

Continual refinement leads to the tweaking of the whole model, refining forms and maintaining



Fig.13



Fig.14



Fig.15

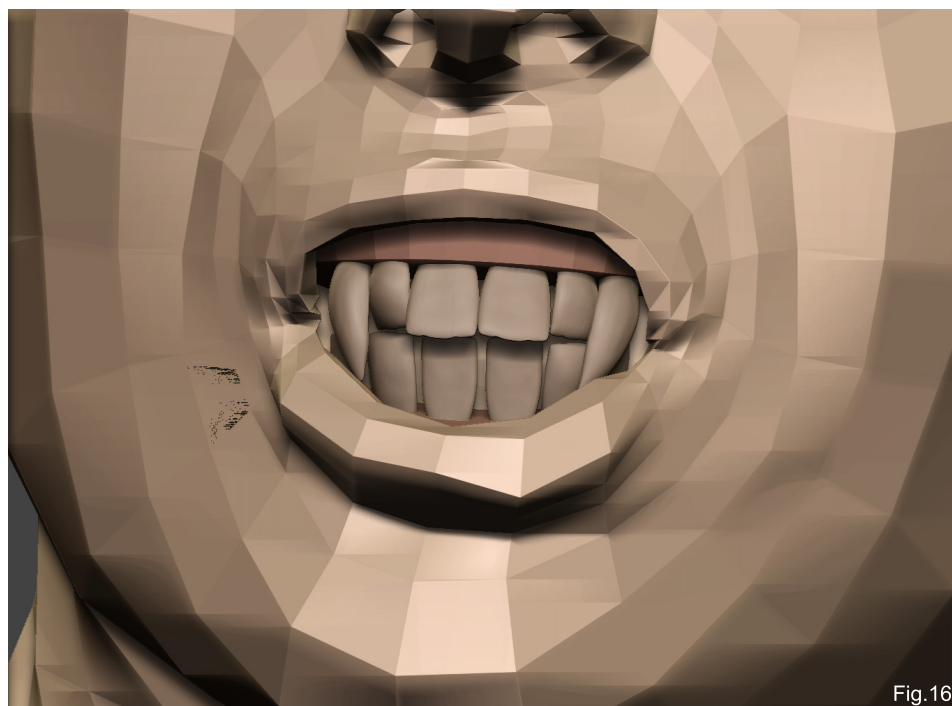


Fig.16

the volume of the surfaces. I add eyebrows on a separate layer to check proportions, as the lack of eyebrows and hair can often throw one off and trick the mind into seeing a character very differently (Fig.19).

## TEXTURING

Texturing a character is a vital part of achieving a finished piece – a part that can be feared.

There is no reason to shy away from texturing models within ZBrush as the tools are designed to be intuitive and efficient. I spend some time blocking out my colours using Polypainting.

Setting my Clay brush to RGB and turning off ZAdd, I make sure Tool > Texture > Colorize is on, choose white as my colour and hit Colour > Fill object. This bakes in the colour white onto my model, and now I can start painting it.



I choose a skin tone that I feel will fit and paint on the model, choosing a deeper red for the ears, nose and lips (**Fig.20**). I add subtle blues under the eyes and into the lips, and decrease the saturation for the stubble areas on his chin and neck. At this stage I'm just blocking out colour ideas. Still using the Clay brush, I set the mode to spray, rather than dots; the alpha to Alpha\_07, which ships with ZBrush; and I turn down the colour spray to 0.1. I choose a reddish colour and spray this onto the model over the cheeks and almost the entire surface, changing the colour to blue, yellow and varying the size and opacity. The spray brush works in a similar way to building up colours on a silicone mask in real media, using an airbrush to create skin texture. Those same techniques can be modified and applied digitally very easily.

Once the colour scheme is fully blocked out, I move onto achieving a more realistic skin by combining photo textures at a lower opacity (**Fig.21**). This shows through the colours and tones I've created before and adds a degree of noise and variation.

Before starting the tutorial I created a small library of facial parts cut out for use in texturing,



Fig.20



Fig.21



Fig.17

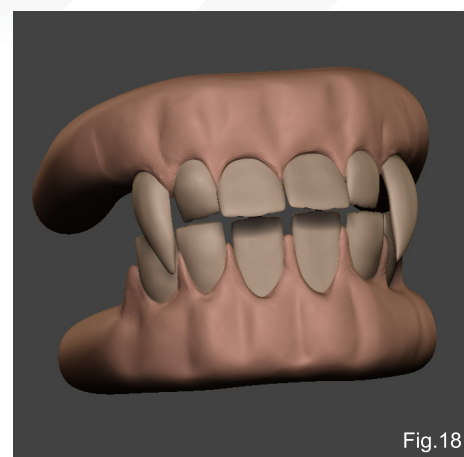


Fig.18

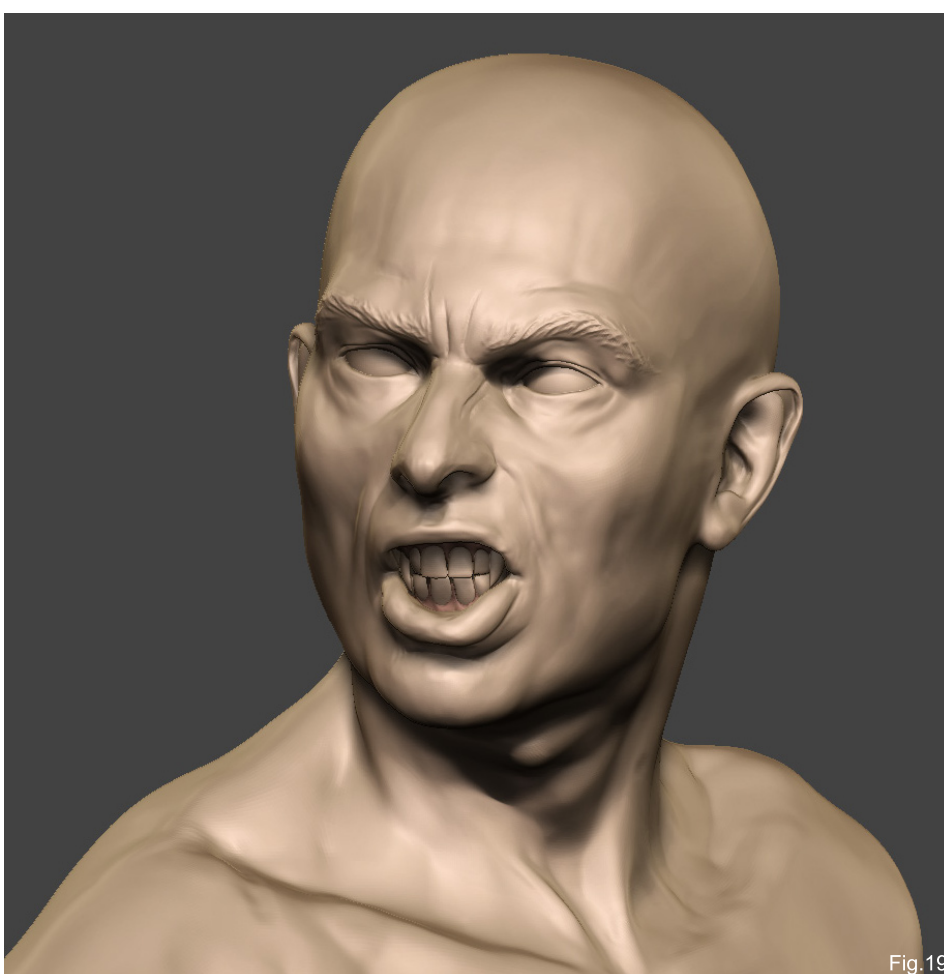


Fig.19

and I draw upon those and Projection Master to texture the vampire. Using a Plane3D tool and Projection Master, I drop the model onto the canvas and drag out a Plane3D. Rotating, scaling and positioning it over the area in question, I load in the particular texture and turn off ZAdd. Using the fast preview I can see the outlines of the model where it's going to be placed. This is really useful for visualising where you're putting the texture.

I project hair textures onto the model from the side, top and back, using the Clone brush to clean up any transitions and problem areas. Cleaning up and projecting small areas until the whole model is done is by far the most time-consuming section. As you can see in the image, once all these parts have been projected using the 'Fade' setting of Projection Master, they blend together very well to complete the head texture (**Fig.22 – Fig.23**).

I take a few moments here to make some tea and come back to the texturing with a fresh eye, and to admire the finished product before moving onto rendering.

## RENDERING

Rendering brings life to characters; it's where we get to use all the fancy effects programs shipped with ZBrush and it's where we can achieve realistic lighting and materials, model our character with light, and really sell an illustration (**Fig.24**).

I achieve the final renders of the vampire by turning on Soft RGB, Fog, Depth Cue, adding some noise through the material, adding Shadows, and making adjustments to the saturation and contrast.

A good tip I've found is to set quite a high aperture, a high shadow depth, turn ZMode on, and use whatever number of rays you are comfortable with. My final images were rendered with just 70 rays, in a compromise between aesthetics and render time.

Fog is a great way to add depth to your renders and ZBrush makes it a breeze to set up. Just drag the depth of the first slider and move your mouse onto the canvas, letting go on the spot where you want your depth to start. The other slider of course sets the part where you want your fog to be at full density.



Fig.22



Fig.23



Fig.24

The final images reflect my original vision (**Final.01**); the power of ZBrush allowed the competition in just one program and the process was enjoyable, efficient and manageable. Thanks to my wife for her ideas and input, and the 3DTotal team for their support and planning.

To end, I'll finish on a tip for creating video within ZBrush: Turn off Anti-Aliased capture if your PC is anything but extremely high-end. The



slowdown is too noticeable to comfortably record and work at the same time.

## NOTE FROM THE EDITOR:

We hope you've enjoyed Joseph's take on a Vampire for this seventh chapter of the ZBrush Character Creation series. Joseph has kindly provided 13 time-lapse movies captured in ZBrush whilst he worked, so they should give you an extra insight into his workflow and give better understanding to the techniques covered in this latest tutorial. So sit back, relax and enjoy this chapter's instalment. Rafael Ghencev will be back next chapter with Chapter Eight, and Rafael Grassetti will be finishing off the series in style with his interpretation of Frankenstein's Monster.

## JOSEPH HARFORD

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Movies 1 - 3



Movies 4 - 6



Movies 7 - 9

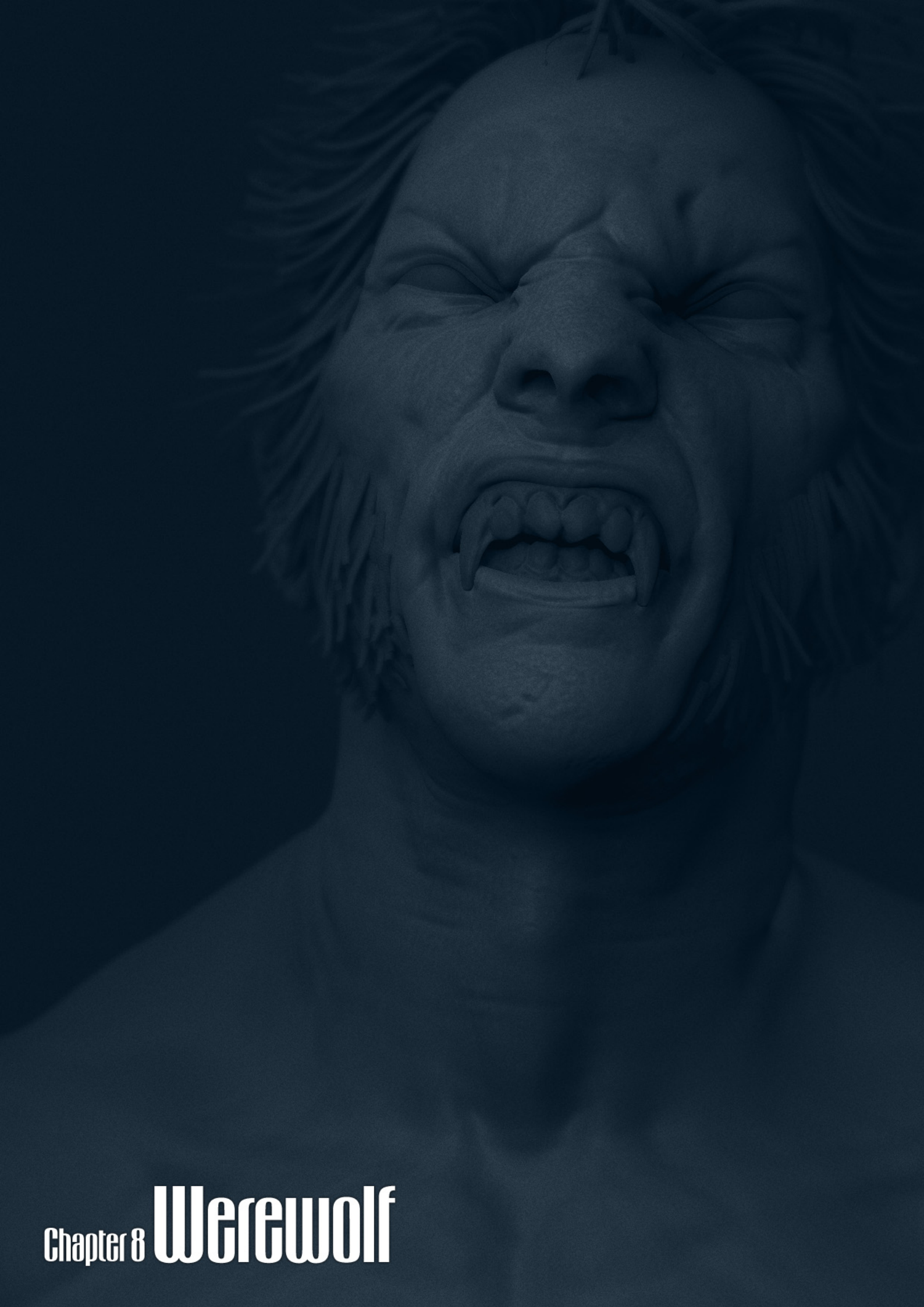


Movies 10 - 13









Chapter 8 **Werewolf**

# werewolf

## CREATED IN:

ZBrush, 3ds Max & Shave and a Haircut (plugin)

## CONCEPT

Hi everyone, I'm back to work on a new character – a werewolf! Before I start any project, like always, I search for references on the Internet. In this case, I searched for photographs of real wolves to help with the creation of my character.

## BASIC SHAPE

To start this character, the first thing I do is to have a think about how to start the creative process, using the references gathered to put together some ideas. I then kick things off by loading up my base mesh and putting the teeth into my new scene that I created for the last character (**Zombie – February 2009 Issue #042**). Working with Symmetry turned on I select the Move brush and play around a little, using the brush in a large size, simply searching for a good form/shape at this stage of the game (**Fig.01**). Remember the importance of concentrating only on finding good shape and form at this early stage of the process?

With the basic shape solved I can start to refine the model by adding one more level of subdivision. Now, using the Clay brush, I can start to draw the bones and muscular structure

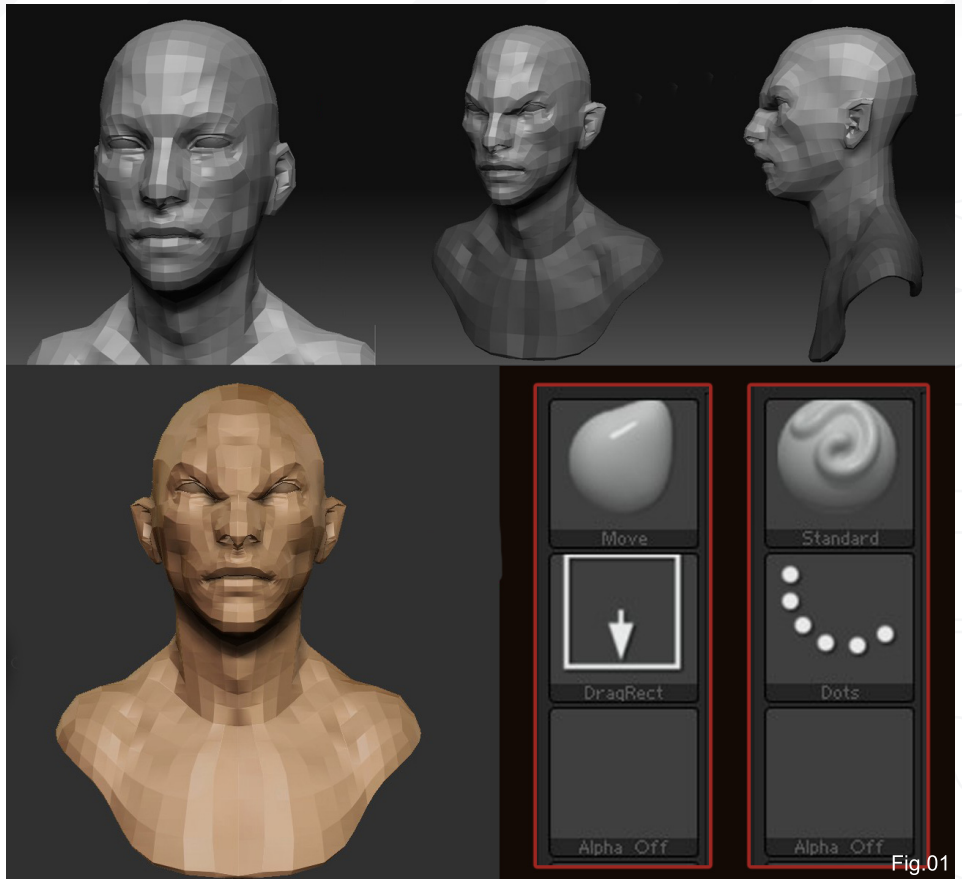


Fig.01



Fig.02

of the entire model. I then select the Standard brush and start to draw some specific volumes in the eyebrow and nose areas. At this point, I decide to change his facial expression using the Move brush with a high radius – just to add more to character's face (**Fig.02**).

Until now, the important part of the work has been in finding a good structure and shape for the character. Details are not important here. You need to keep calm when sculpting and learn to walk before you can run – there is no use running into the next stage without properly establishing a good base shape that you can work from. So with this now done, we can proceed to the next step.

## REFINING THE SHAPE & INITIAL DETAILS

Selecting the Clay brush, I start to refine his bone and muscle structure, adding more volumes to the mouth orbicular, the zygomatic bone, the eyebrow structure, etc. Remember that it is very important to work with references

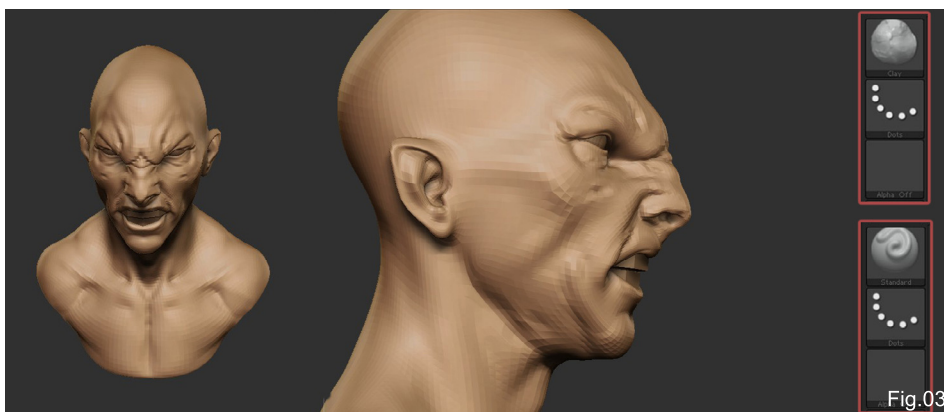


Fig.03



in order to improve the quality your work; in this case I'm using some wolf photo references to make my character's expression more brutal, more animal-like (to see the type of image I was using as a reference, try searching for photo ID #83422727 on [www.gettyimages.com](http://www.gettyimages.com) (check box for "Creative" images)). Selecting the Standard brush, I draw skin folds in the eyebrow and chin areas to help refine his expression and add further detail to it – all in all, making it much more believable (**Fig.03**). I'm really going for a tense jaw look and feel.

Now it's time to give more attention to the individual shapes and details of the face. Using the Clay brush, I improve the shape of the nose, and then select the Standard brush, with alpha 38, to add wrinkles around his eyes, mouth and forehead (**Fig.04**). At this stage we're still not into the high details yet – we're still sketching!

We can now start to work without Symmetry turned on, in order to achieve a much more natural look to our character – in particular I'm working in-between his eyebrows to take away the symmetry.

## DETAILS

To start this part of the process I select the Clay brush and start to add some skin imperfections, one by one, making little movements to create small eruptions on the surface of the skin. I then change the stroke for a spray stroke, choose an alpha such as 38, and then change the brush to ZSub to create little cavities – simulating pores.

Using the Standard brush with alpha 38 I start to add some wrinkles around the neck and eyes. To improve the volume of his wrinkles I select the Inflat brush with a low value and start to inflate the wrinkles to give them a more natural appearance (**Fig.05a**).

At this point I decide to add more small wrinkles in his eye area; for this, I select the Standard brush with alpha 38 and start to draw some cavities. References here are very important



Fig.04

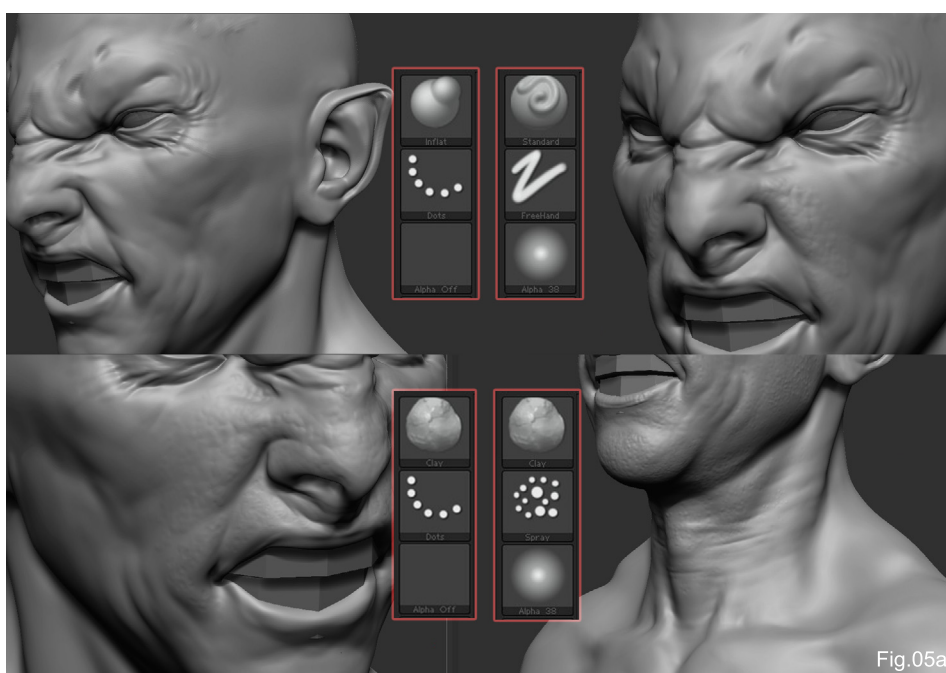


Fig.05a

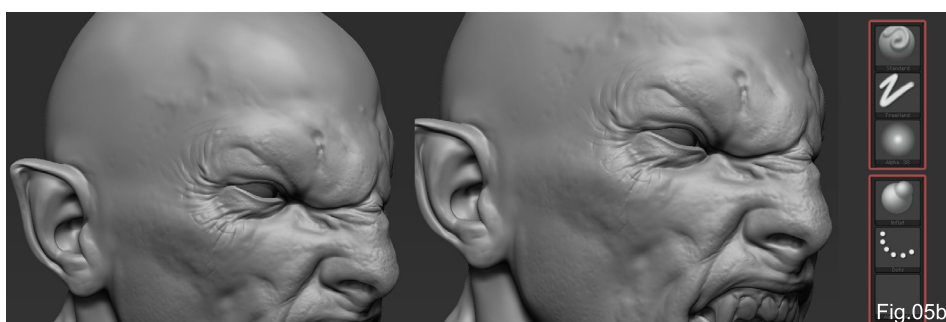


Fig.05b

in order to understand the flow of the wrinkles. I then select the Inflat brush again and use it along every cavity to add more volume to it (**Fig.05b**). Using the same process I add yet more wrinkles to his chest area, but this time after drawing them I select the Clay brush and paint some skin volume variations, giving a look which is much more natural for his skin.

Selecting the Clay brush, changing the stroke for spray and selecting alpha 38, I now start to draw some pores and skin imperfections onto his body. This is a great form to suggest a growing beard, but in this case it's not necessary because I'll be creating the hair shortly (**Fig.05c**).

## TEETH

To create the teeth I make some divisions, and then, selecting the Move brush, start to push the major teeth – therefore creating the canines. I select the Standard brush again to create the separation between each tooth. To finish up the teeth, I choose the Clay brush to sculpt the gums and to refine the volumes of the teeth, giving them a more natural finish (**Fig.06**).

## HAIR – IN ZBRUSH

To create the hair I have decided to show you not one, but two possibilities; the first one is to create the hair in ZBrush, and the second will show you how to use 3ds Max.

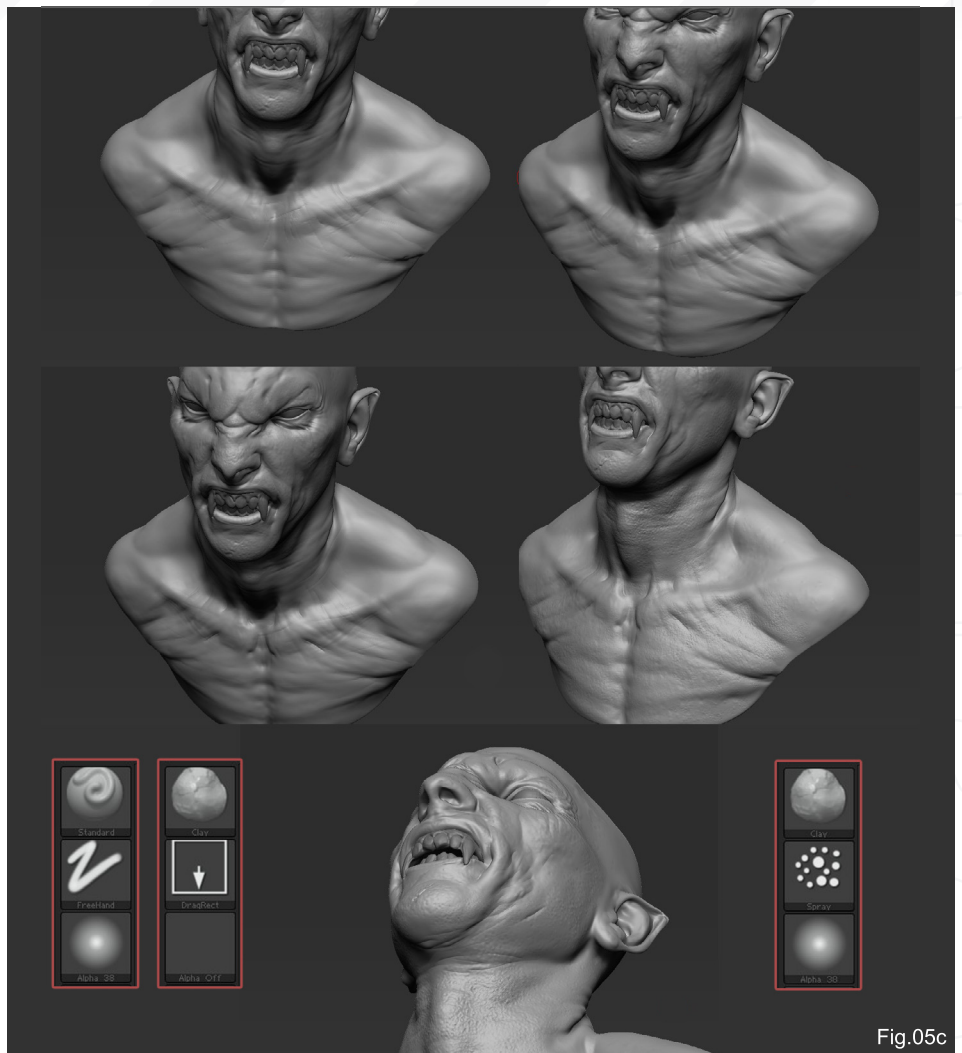


Fig.05c

So to create my werewolf's hair in ZBrush, I start by selecting the Clay Tubes brush; this tool is great for creating large, flat volumes and is a variation on the Clay brush tool. With this tool I start to sculpt the form of the beard, trying to get

some flow in the movement of the hair. I select the Standard brush with alpha 38 and a low radius and I start to draw some little edges to give the beard a more interesting look (**Fig.06a & Fig.06b**). I then use the same process to



Fig.06





Fig.06a

sculpt the hair on his head into place, starting with the Clay Tubes brush. I kept repeating the process in order to refine the shape of the hair's segments and, using the Smooth tool, I gave a cleaner look to some areas. Once again, I select the Standard brush and sculpt some edges (**Fig.06c**). And here is the final result with ZBrush-sculpted hair (**Final.01**).

## HAIR – AN ALTERNATIVE APPROACH

To create the hair in 3ds Max, you can either use the Hair and Fur function in Max, or you can try out the "Shave and a Haircut" plugin (<http://www.joealter.com/>). To use Hair and Fur in Max, I export the low-resolution mesh to Max and make a selection in areas where I want to create the hair. I then select Hair and Fur in the modification list and hair will be applied to the selections; however, it will look awkward because it won't have been combed at first. To push and pull the style into place, simply



Fig.06b

select some tools from the styling menu. Once the styling process is done you need to set the finished style and then go to the general parameters to change some values. This is important as the hair is going to be transformed into a mesh. So I decrease the hair count, increase the hair segment and increase the root and tip thickness. Then I just need to click on Hair > Mesh and export the mesh to ZBrush. Once back in ZBrush I can then add some divisions to smooth the hair.

The process of using the Shave and a Haircut plugin is very similar: The first thing I do is to export the low-resolution mesh to 3ds Max and make a selection of the areas where I would like to create hair (**Fig.07**). After I select hair and fur in the modification list, the hair will be applied onto the selection – but the hair will look weird because you will need to comb it! For this, simply push the hair into the style you want, using the styling menu, and play around with some of the tools to comb your hair into position. Once you've finished the styling process, you need to click on the Finish Styling button, and go to the general parameters and change some values. Once again, this is important because it will transform the hair into a mesh. So in the parameters I decrease the hair count, increase the hair segment and also increase the root and tip thickness. Now it only needs me to click on Hair > Mesh and export the mesh to ZBrush (**Fig.07**).

Once back in ZBrush, you need to import the hair mesh and add some divisions to smooth the hair (**Fig.08**). Here is the final result (**Final.02**).



Fig.06c







This is my last tutorial of this series – Rafael Grasseti will be finishing the tutorial series next chapter with his interpretation of Frankenstein's Monster. I hope I have helped you guys with these tutorials and I hope to see you again in future ones!

#### Note from the Editor:

Rafael has not covered texturing his character in this part due to the detailed sculpting involved; should you wish to texture your character, simply refer to our back issues featuring previous chapters of the ZBrush Character Creation series to learn some ZBrush texturing techniques. Rafael has also kindly provided us with 10 movies to accompany this – his final – chapter. Simply click on the Free Movies icon to download your movies. Rafael Grasseti will be with us next chapter to round up the series. We hope you've enjoyed the series so far!

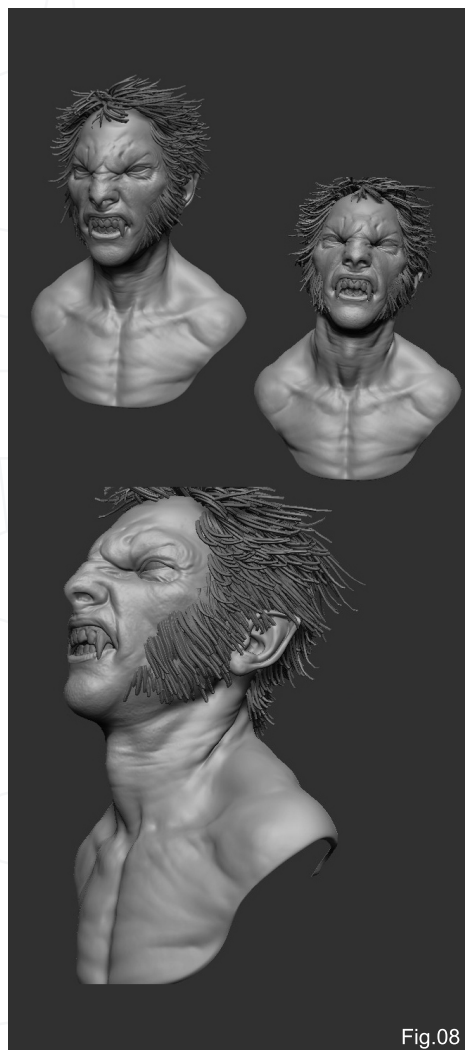


Fig.08

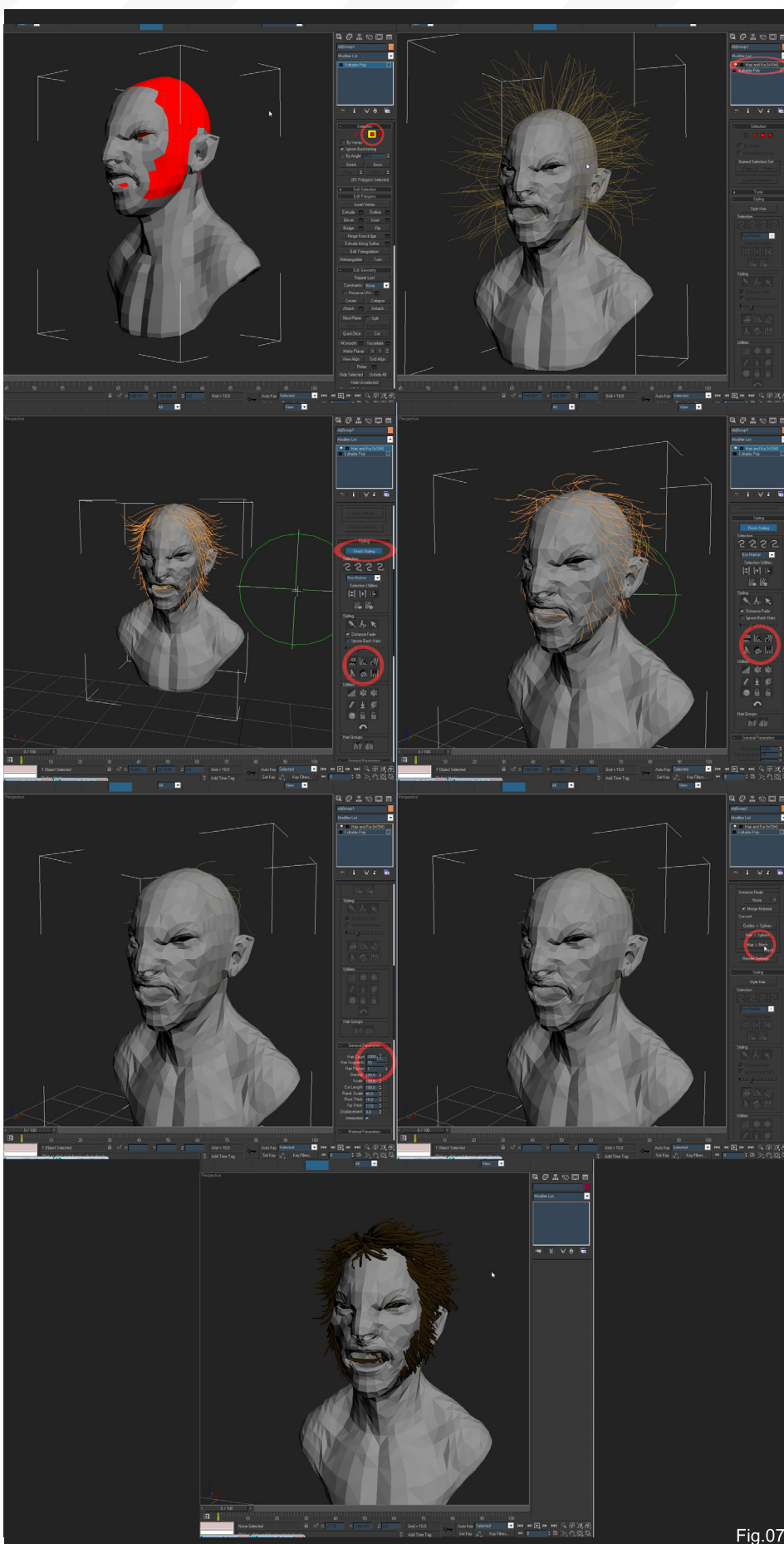


Fig.07



RAFAEL GHENCEV

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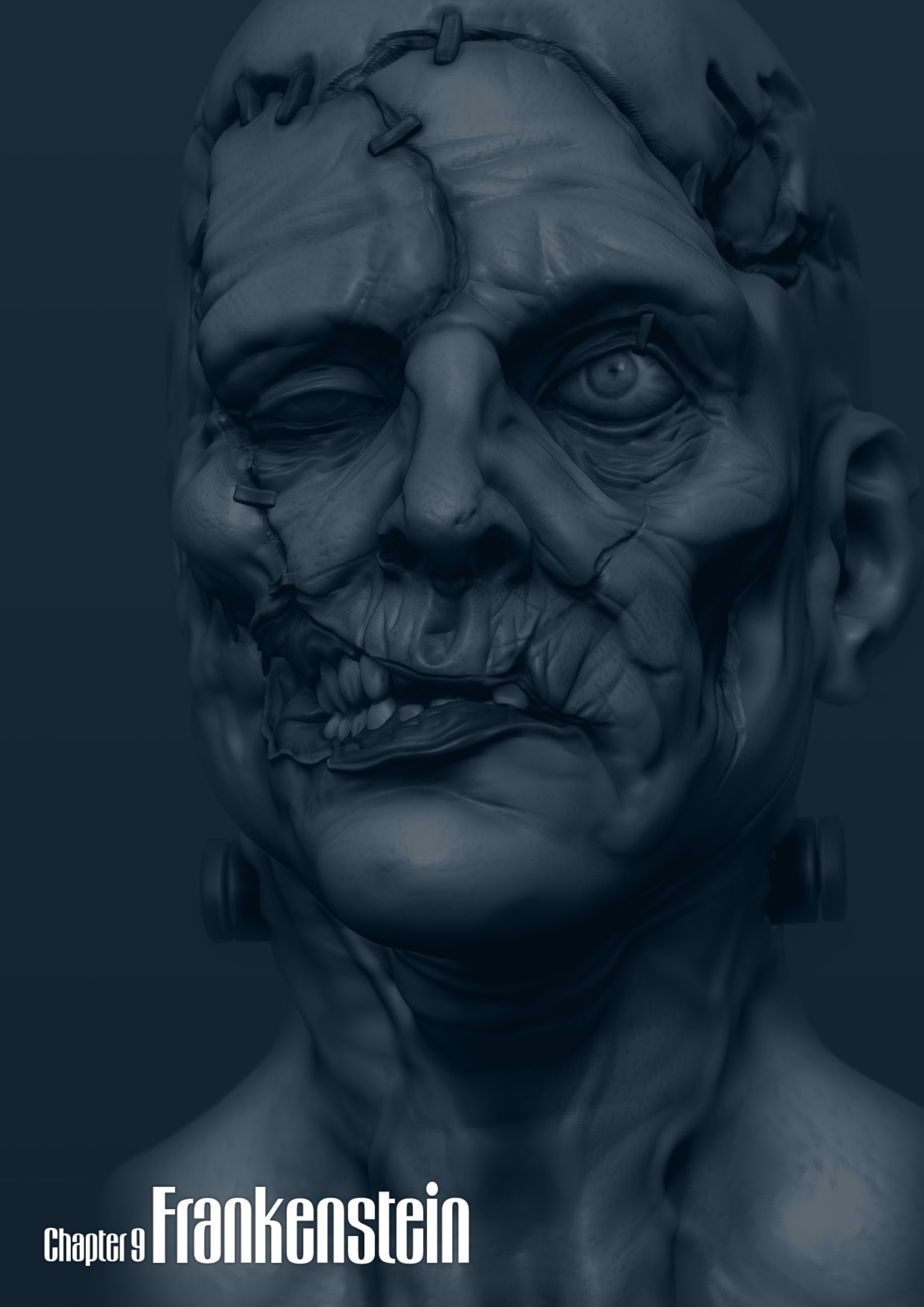
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Chapter 9 **Frankenstein**

# Frankenstein

## ZBrush Character Creation

Created In:

ZBrush & 3ds Max

## INTRODUCTION

It's a pleasure for me to do a part of this tutorial series. Rafael Genchev is an awesome artist and my style is a little different from his, so I will try to discuss a little about my process of creation in this final chapter of the series.

## CONCEPT

When I think about this theme, the first thing that comes to mind is a human that had been totally rebuilt. Because of this, I'm going to move away from the classic Frankenstein's Monster look and try something different with this tutorial. I always search for lots of references before I start anything – not always just for things specifically related to the theme, but also

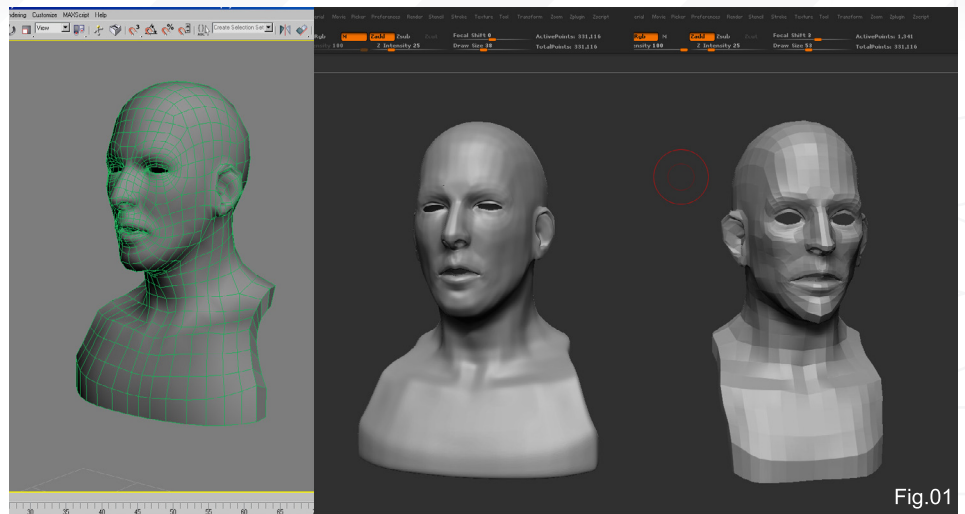


Fig.01

for references that can help me later on. For example, with this project, I'm going to need images of injured people, scars, things related to flesh, teeth, etc. All these kinds of references will help me to create a piece that is more organic and believable.

## DEFINING THE INITIAL SHAPE

Before starting a new project it is always good to stop and think about potential future problems. For this one I know that I want to try something different with his mouth and eyes, so before I

drop my base mesh into ZBrush, I add a few extra more loops into areas in 3ds Max (Fig.01). With all my references at hand and the main idea in mind, I start to work with the Move tool and find the best proportions for the model. In this first stage I always work with the lowest subdivision, but I subdivide the model first to the 4th or 5th division so that when I divide it later, I don't lose some proportions with the smoothing of the divisions.

For this model I know that there will be some details that the main topology won't allow me

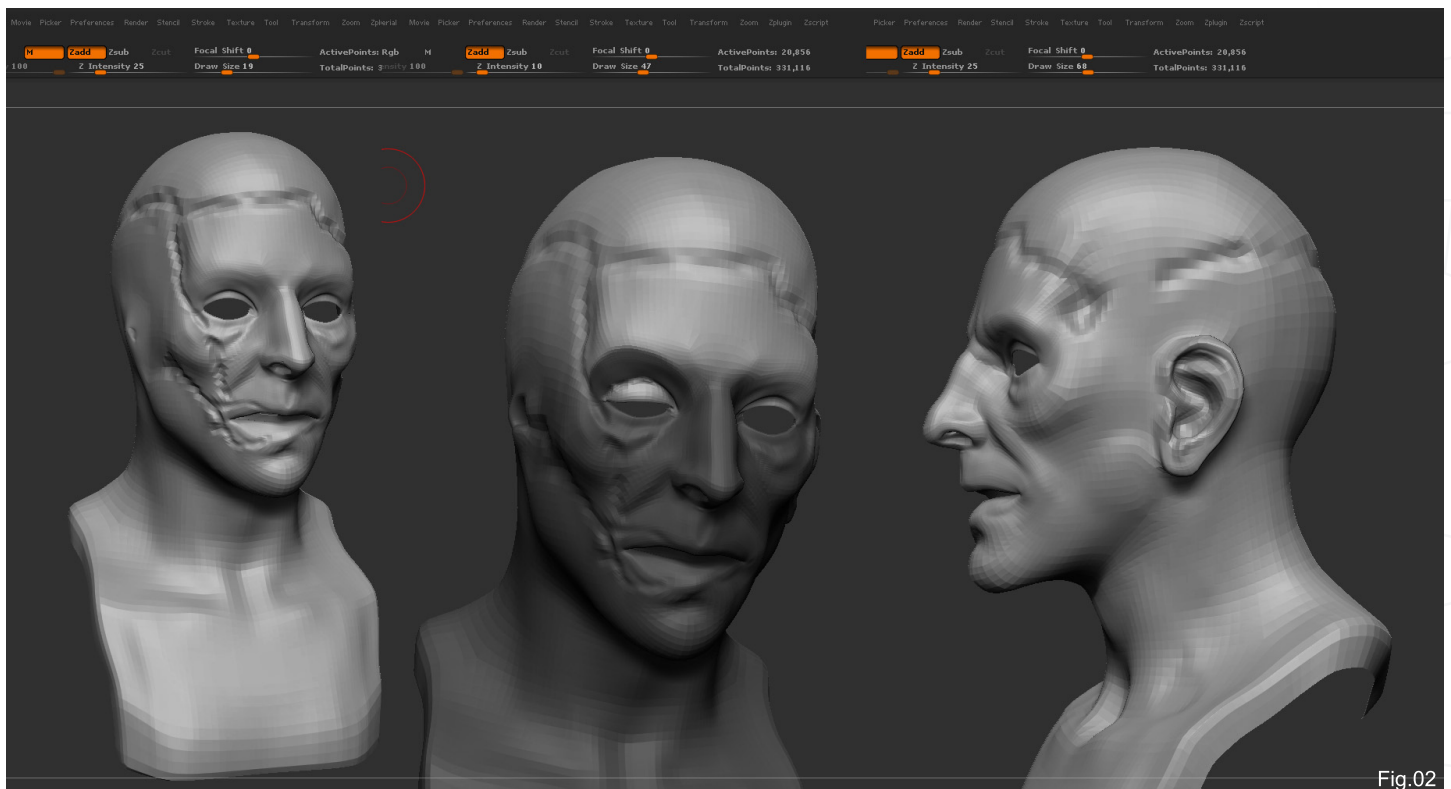


Fig.02



to do with the lowest level of subdivision, so after finding the best proportions I start to work on subdivision level 3, sculpting a few ideas for shapes. Nothing is finished or detailed yet; I'm just finding the best shape for this model before I move any further with the character piece (Fig.02).

## REFINING SHAPES & ADDING ACCESSORIES

With the shapes I want to go on with established, it's not time to add a few accessories to better visualise the final model. So I model a few accessories in 3ds Max, like teeth and eyes (Fig.03). For this, I make really quick and simple base meshes, as this way I can keep more freedom in ZBrush. I attach my rough base meshes as SubTools and continue to work on specific areas, refining the mouth, eyes and head (Fig.04). At this stage I always use the Clay, Standard, Smooth and Move and brushes. Also for this piece – and I don't usually do this – I decide to work without symmetry right from the beginning.

After getting a bit more advanced with shapes and details, I then have more freedom to add specific accessories in place. I do this in the same way I made the other accessories (eyes and teeth). I refine the shapes in ZBrush, thinking about what I would like to add, and then create simple base meshes in 3ds Max

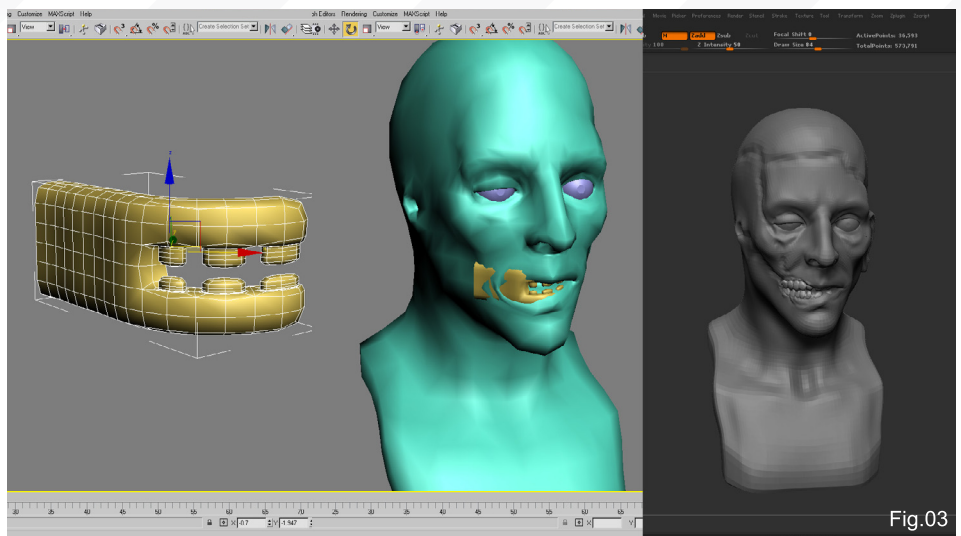


Fig.03

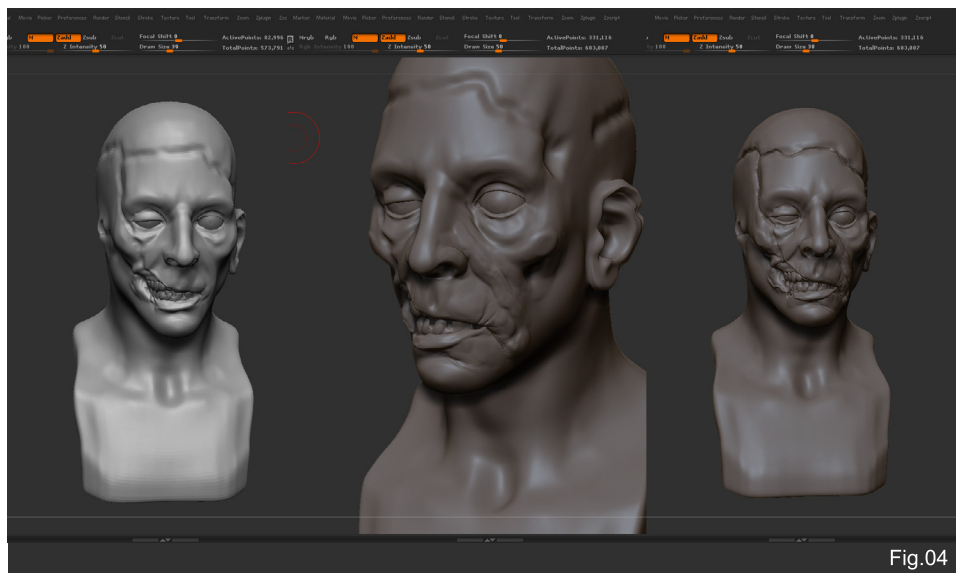


Fig.04

using primitives that I can import into ZBrush and append to the model. I then use the Move and Rotate tools to pose them and continue

adding details (Fig.05 & Fig.06). In a few areas it's hard to get a nice shape without isolating the area. For example, in the mouth I mask that area using the Ctrl button to work on it with more freedom.

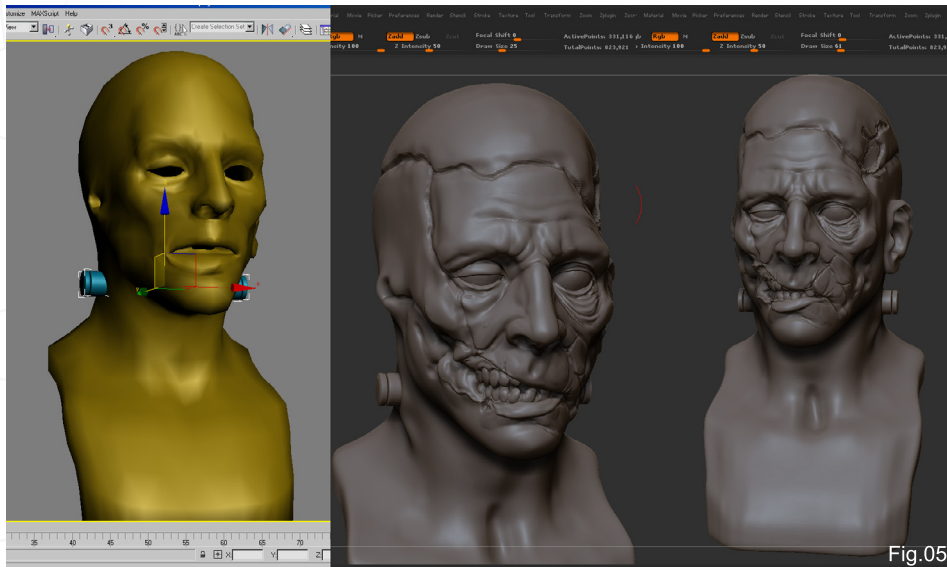


Fig.05

While detailing the model in ZBrush, I start thinking about some of the accessories that I will be creating later on. After sculpting in a few lines on the face in the previous step, I take that further now by exporting a low-res version on the face, which allows me to see the lines, and importing it into 3ds Max once again. Here I create and position small boxes on top of the mesh. After importing these boxes into ZBrush, I use the Move tool to distort them and then use the Standard brush on the mesh to make them interact with one another (Fig.07).

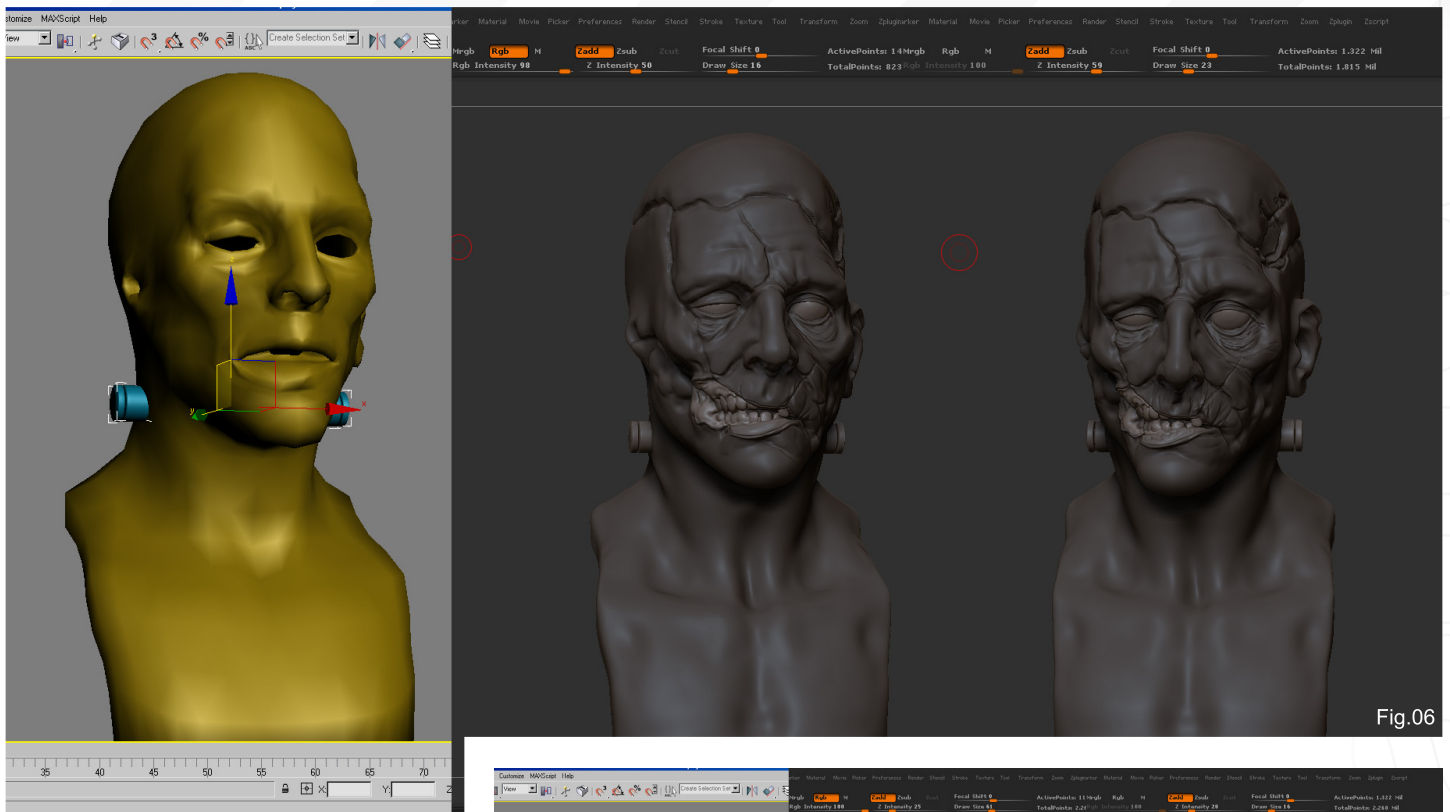


Fig.06

Back to 3ds Max now, I use a spline to create some stitches in his face. After importing it back into ZBrush, I use the Move and Standard brushes to make it look more organic (**Fig.08**). The metal plate in his chest I make with a simple plane positioned inside his skin and then, using the Standard brush on the character's mesh, I pull the polygons inside the plane to give it a torn look. But actually, it's just an overlap of meshes.

## FINAL DETAILS

With the model in its final shape, I can start to add small details, using the Standard brush with Lazy Mouse turned on. This way I can get clean lines with a small brush size. I start to refine wrinkles, veins, and work on small details on the eyes, mouth and scars. Once satisfied I then draw further details using the Inflat brush to make it all look more natural. And at the end I use alphas to add small pores and blemishes.

## TEXTURING

For textures, the most important thing is to look at references. This is when every reference becomes important; a small detail on the image,

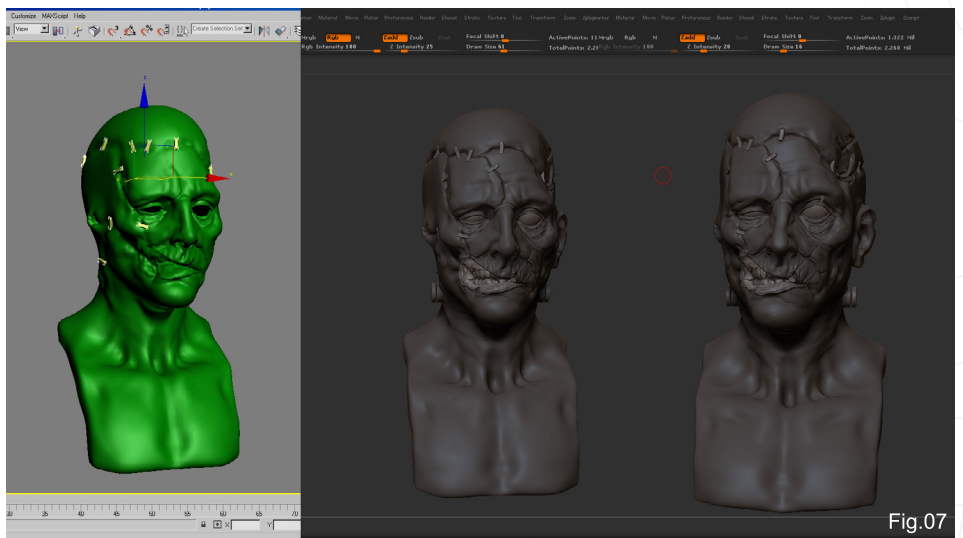


Fig.07

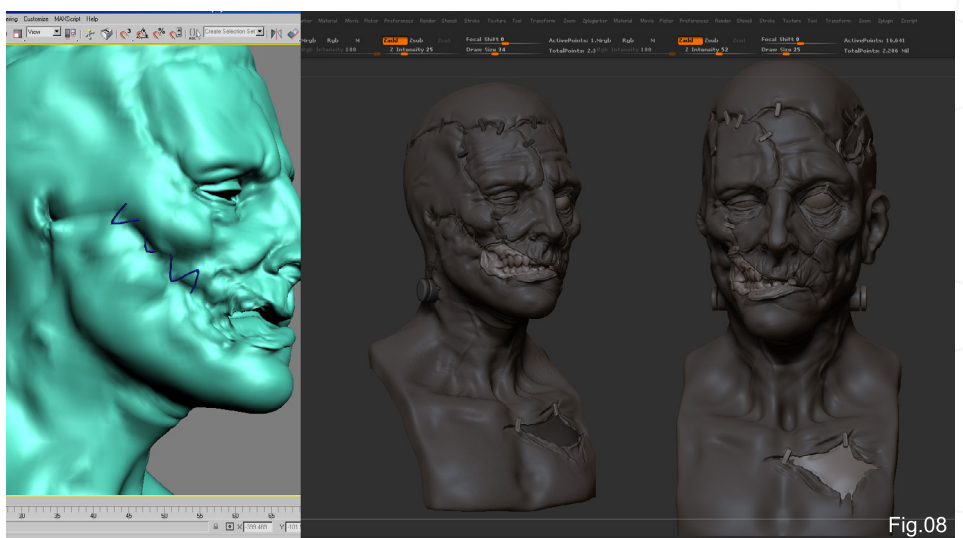


Fig.08



the colours – everything can help at this stage.

Another thing that I think is important is to only work with a small variation of colours. In every model I try to keep the colours almost the same with only small variations. For this model I don't use any textures from outside ZBrush, I just use Polypaint. In this first stage I colour the entire model with a skin tone (Fig.09).

Using the standard colour, with brush and spray at a low intensity, I start to make some areas stand out, faking a small occlusion. I then go in with a darker colour, continuing to work on the areas – you can see how this helps to set back a few areas and objects (Fig.10a). Just with colour variations and intensity I keep adding colour to the entire model. Using the cavity and mask (Fig.10b) with a low intensity I give more detail to the textures - I try to only do small variations. Finally, I create the eyes in 3ds Max and then import them into ZBrush.

## MATERIALS

I like to use different materials on my models. To apply them you just need to turn on the M, instead of RGB, and choose the material you want – hit draw in the fill palette. For the lips I want a glossier material so I use the ToyPlastic one, mask only the lips and apply it only to the masked area. For the face I use the SkinCore material, and by flipping the mask I apply it to the rest of the bust (Fig.11).

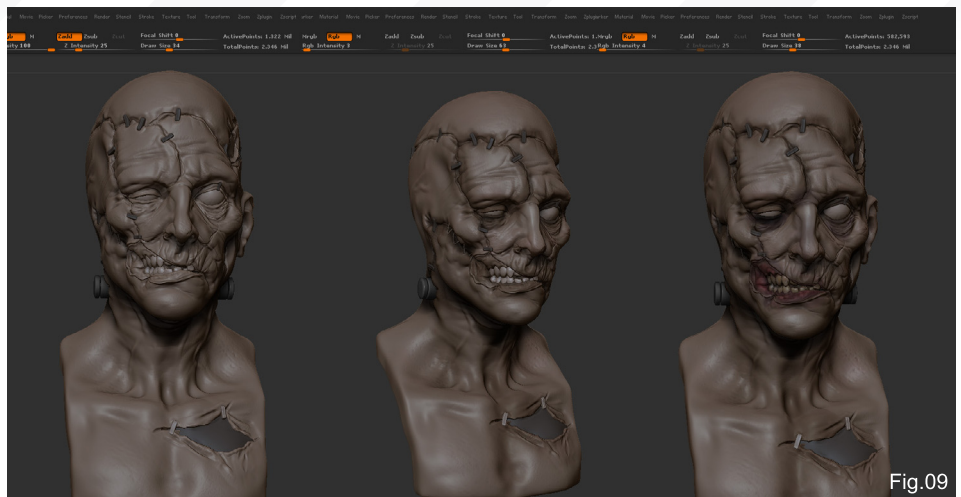


Fig.09

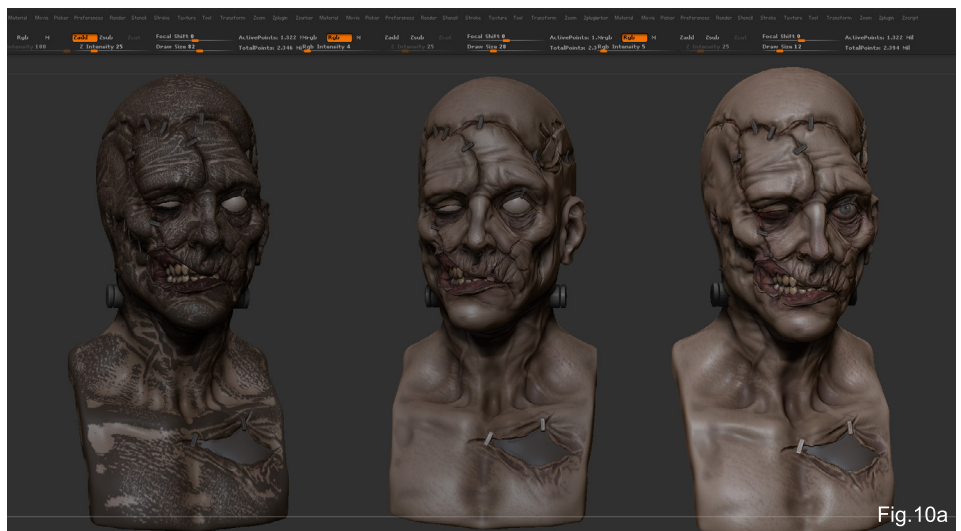


Fig.10a

I hope you have enjoyed this tutorial. It was a pleasure for me to do this chapter after all the awesome characters that Rafael Ghencev has created over the previous chapters. So thanks for reading, and happy ZBrushing!

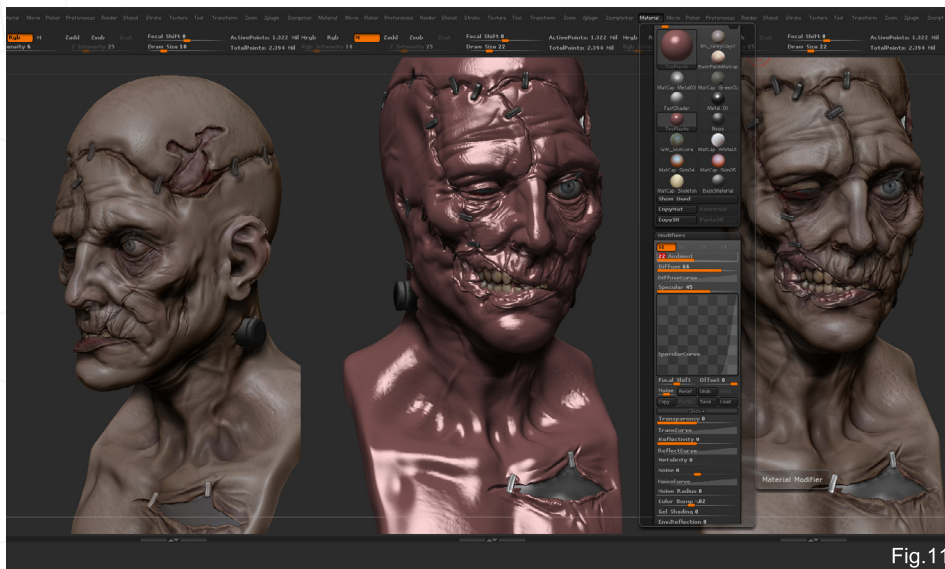


Fig.11



Fig.10b

## RAFAEL GRASSETTI

For more from this artist visit:

<http://grassetti.cgsociety.org>

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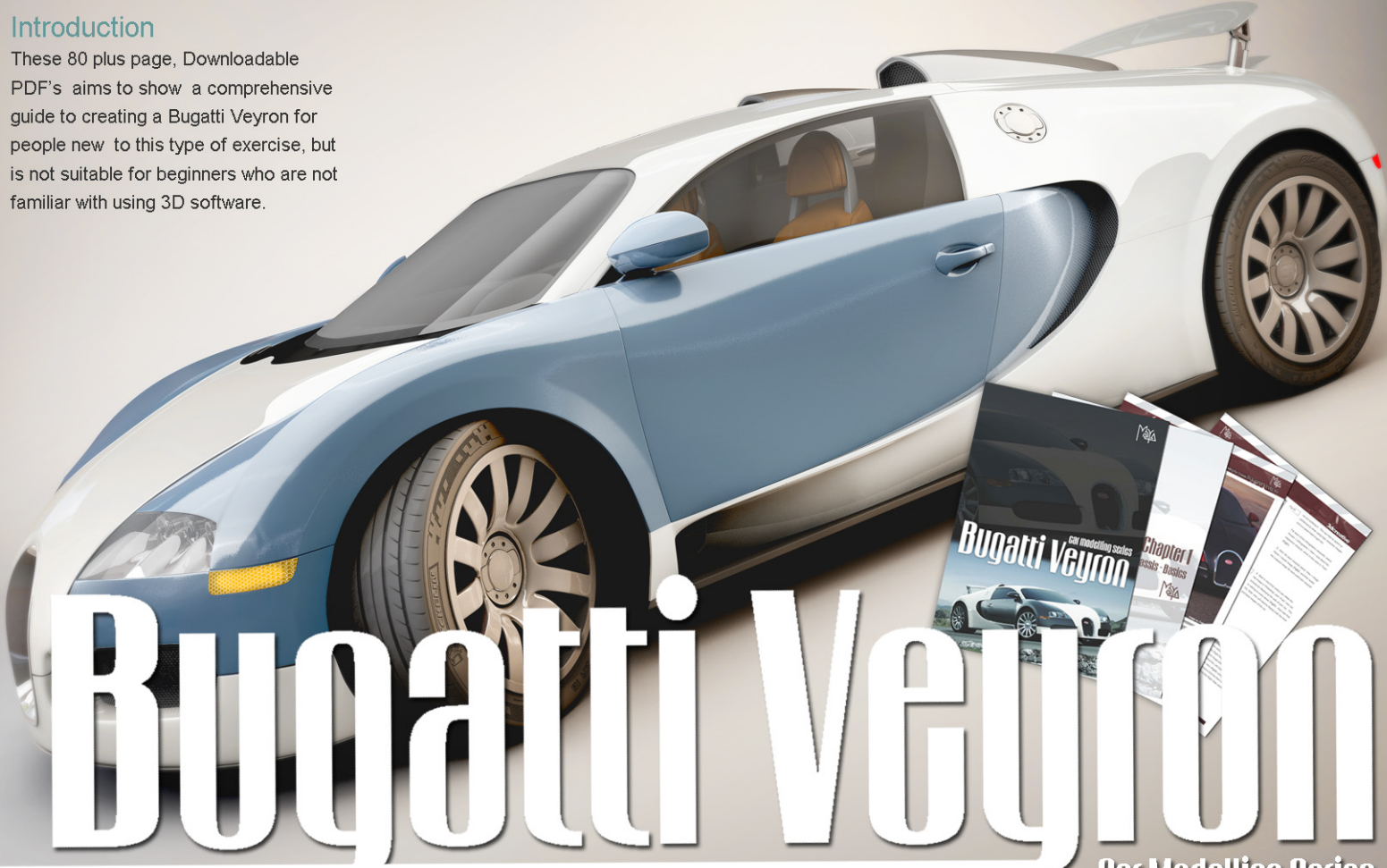






## Introduction

These 80 plus page, Downloadable PDF's aims to show a comprehensive guide to creating a Bugatti Veyron for people new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software.



# Bugatti Veyron

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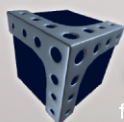
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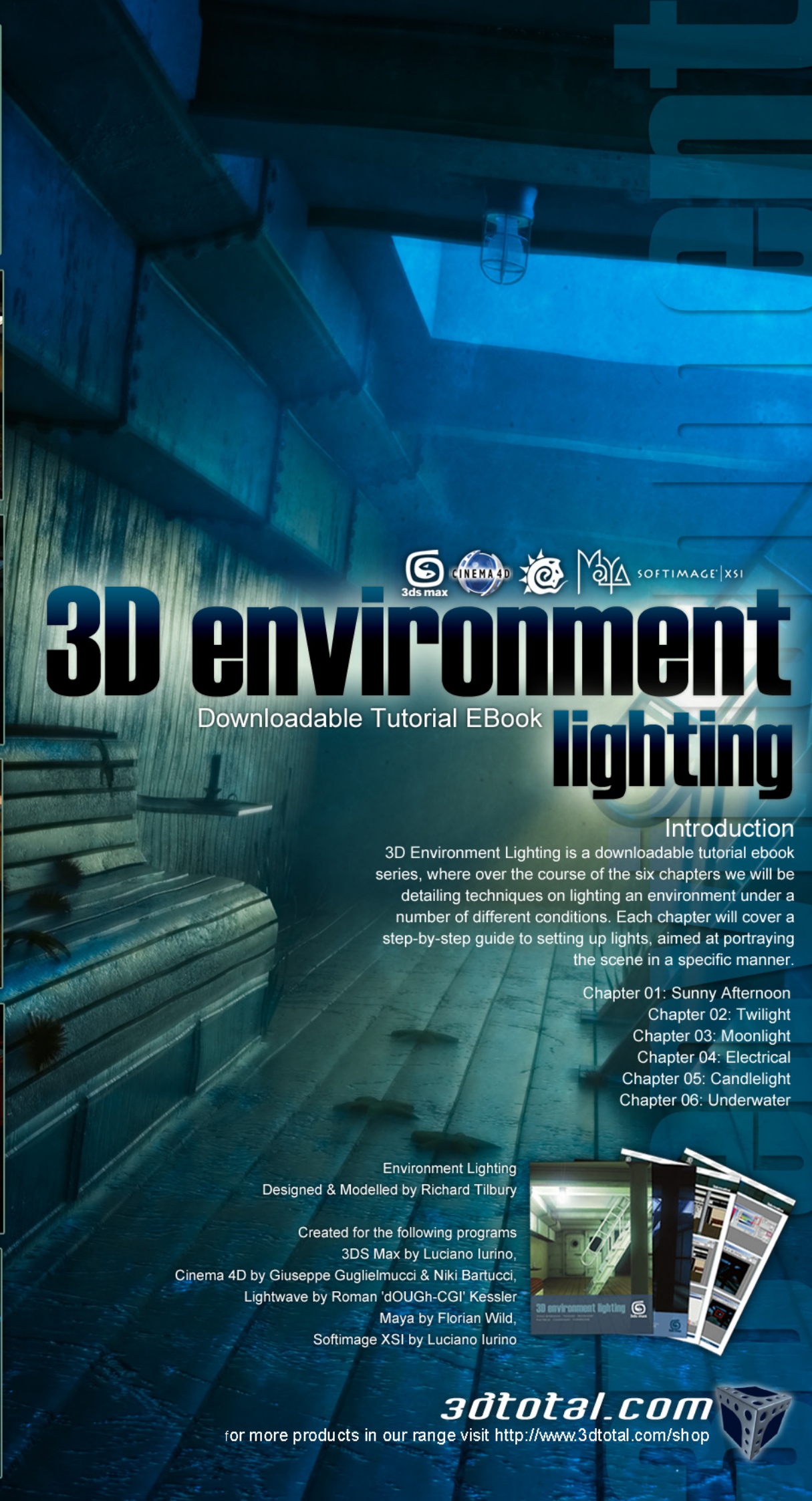
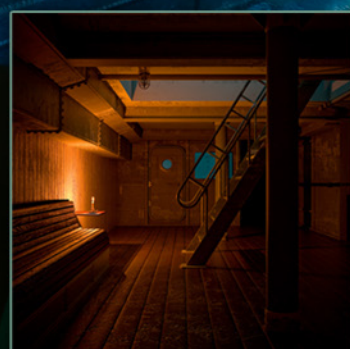
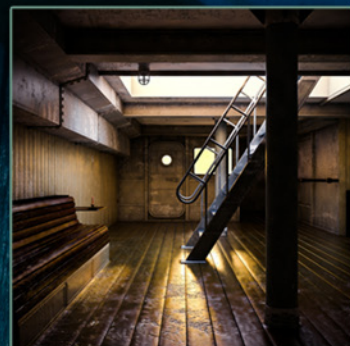


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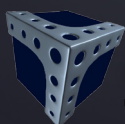
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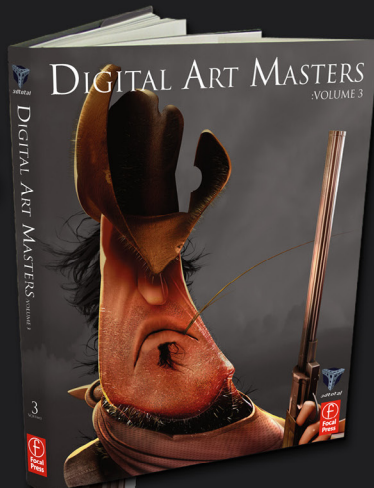




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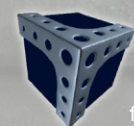
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#### Chapter 7: Texturing & Hair

- Eyes, Skin & Hair

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#### Introduction:

Michel Roger's famous 'Joan of Arc' tutorial re-written for Maya by Taylor Kingston, Cinema 4D by Giuseppe Guglielmucci & Nikki Bartucci, Lightwave by Vojislav Milanovich and Softimage by Luciano Iurino and 3DCreative Magazine.com.

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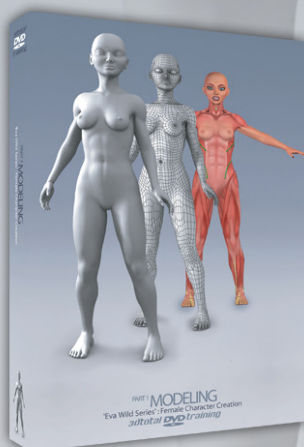
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